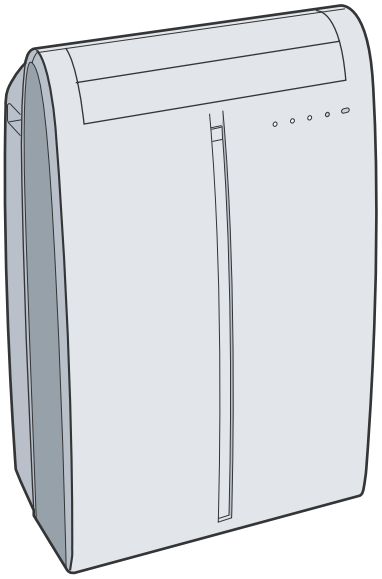
SHARP SERVICE MANUAL

PORTABLE AIR CONDITIONER



MODEL CV-P09FR

In the interests of user-safety (Required by safety regulations in some countries) the set should be restored to its original condition and only parts identical to those specified should be used.

CONTENTS

CHAPTER 1. PRODUCT SPECIFICATION
[1] SPECIFICATION 1-1
[2] ELECTRICAL PARTS 1-1
[3] WIRING DIAGRAM 1-2
[4] EXTERNAL DIMENSION 1-2

CHAPTER 2. OPERATION INSTRUCTION
[1] PART NAMES 2-1
[2] LOCATION 2-2
[3] INCLUDED 2-3
[4] INSTALLATION AND REMOVAL OF EXHAUST HOSE 2-3
[5] PRE-OPERATION CHECKS 2-4
[6] OPERATION MODE 2-4
[7] DRAINAGE 2-6
[8] MAINTENANCE 2-6

CHAPTER 3. DISASSEMBLING PROCEDURE
[1] PROCEDURE FOR DISASSEMBLY 3-1
[2] DISASSEMBLING THE CONTROL BOX 3-9

CHAPTER 4. EXPLANATION OF CIRCUIT AND OPERATION
[1] ELECTRONIC CONTROL CIRCUIT DIAGRAM 4-1
[2] PRINTED WIRING BOARD 4-2
[3] FUNCTION 4-3
[4] PERFORMANCE CURVES 4-6

CHAPTER 5. ATTENTION WHEN REPAIRING
[1] HOW TO REPAIR REFRIGERATION 5-1
[2] ELECTRICAL COMPONENT TEST 5-3

CHAPTER 6. TROUBLESHOOTING GUIDE
[1] TROUBLESHOOTING 6-1

REPLACEMENT PARTS LIST

Parts marked with " ⚠ " are important for maintaining the safety of the set. Be sure to replace these parts with specified ones for maintaining the safety and performance of the set.

SHARP CORPORATION

This document has been published to be used for after sales service only.
The contents are subject to change without notice.

CHAPTER 1. PRODUCT SPECIFICATION

[1] SPECIFICATION

Cooling Capacity	kW	2.12
Moisture Removal	liters/h	1.167

Electrical Data

Phase		Single
Rated frequency	Hz	50
Rated voltage	Volts	220 - 240
Rated current	Amps	4.0
Rated input	Watts	880
Power factor	%	96
EER	W/W	2.41

Compressor

Type	(Hermetically sealed rotary type)
Model, Motor Output	5RS084DAC01 (600W)

REFRIGERANT SYSTEM

Evaporator	Louver fin, Grooved tube, 7mm, hair pin
Condenser	Louver fin, Grooved tube, 7mm, hair pin
Control O.D. x I.D x Length(mm) (Capillary Tube)	2.7 x 1.2 x 400
Refrigerant Volume R410A (g) (Factory Charge)	400

NET DIMENSIONS

Width Height Depth	mm	470 x 820 x 383
Net Weight	kg	36

GROSS DIMENSIONS

Width Height Depth	mm	561 x 910 x 465
Gross Weight	kg	41

FAN SYSTEM

Indoor side (Evaporator)		Centrifugal fan
Outdoor side (Condenser)		Centrifugal fan
Air Flow rate (Indoor side)	m^3/min	High / Med / Low
		240/190/140

OTHERS

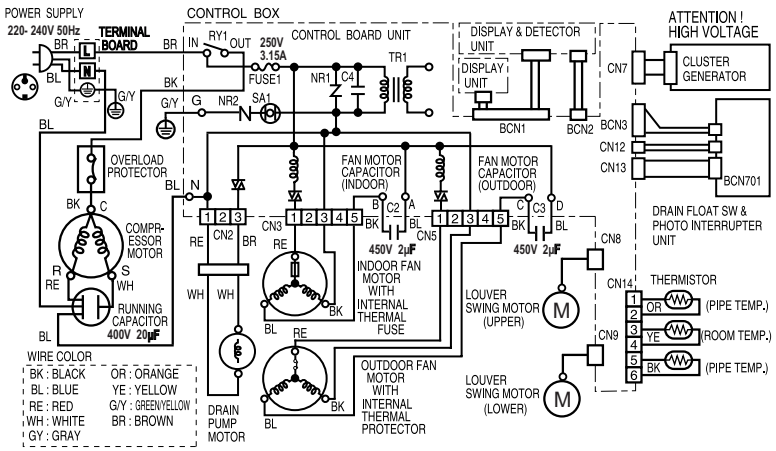
Safety devices		Compressor : Overload relay Fan motor (IN/OUT) : Internal thermal fuse / Internal thermal protector
Air filter		Polypropylene net
Power cord length	cm	160
Power plug type		Standard sheet CEE7/VII

[2] ELECTRICAL PARTS

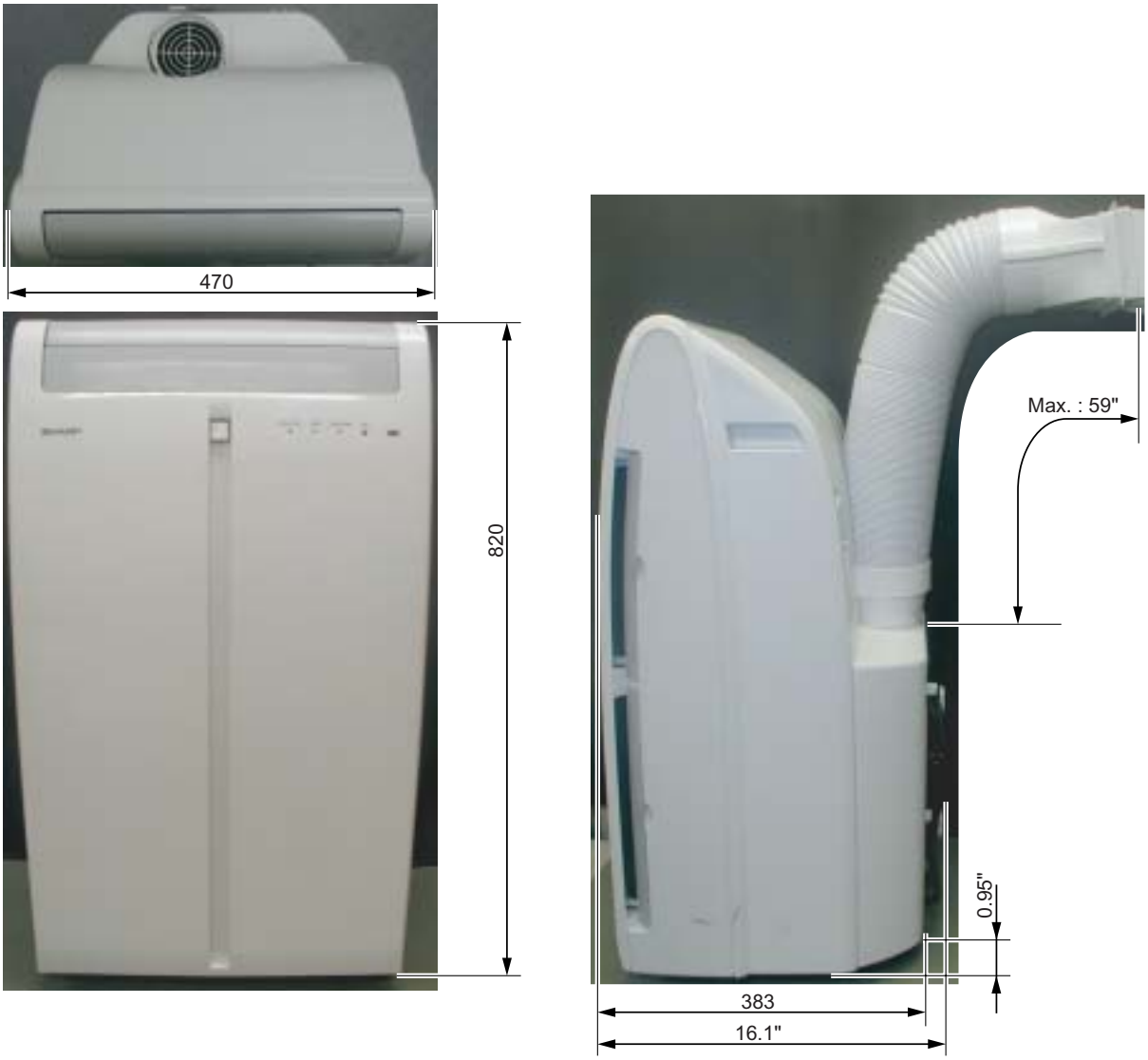
Running capacitor	400V - 20μF
Fan capacitor (IN/OUT)	450V - 2μF / 450V - 2μF
Thermistor	10kΩ at 77°F (TH1), 4.431kΩ at 77°F (TH2, TH3)
Fan motor (IN)	IBH-884-513 (MLB189)
Fan motor (OUT)	PFU040AUEA/SHP (MLB188)
Overload relay	MRA99212L-9201 or MRA99326
Drain motor	ORM-1524P2 (M-A445)

[3] WIRING DIAGRAM

CC089



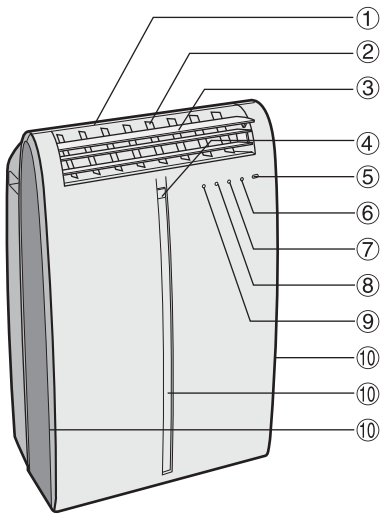
[4] EXTERNAL DIMENSION



CHAPTER 2. OPERATION INSTRUCTION

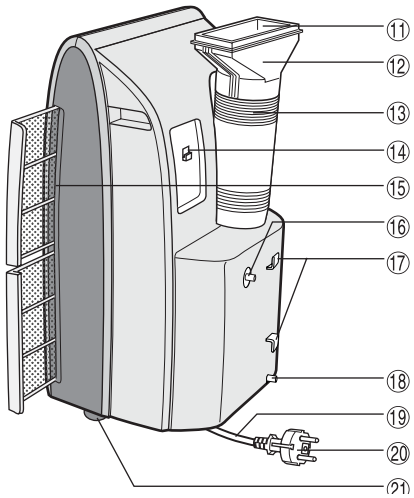
[1] PART NAMES

1. Front view



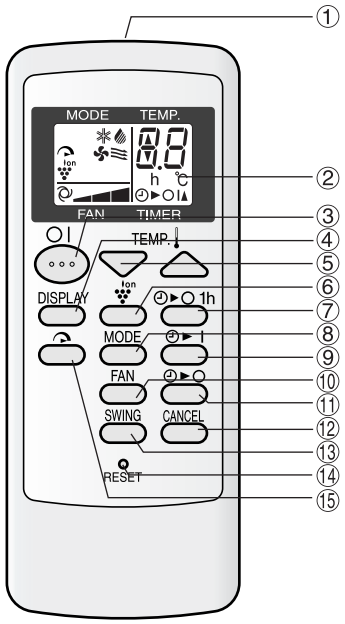
① Air Outlet
② Vertical louvers
③ Horizontal louvers
④ PLASMACLUSTER Lamp (blue)
⑤ Remote control signal receiver window
⑥ AUX. Button
⑦ OPERATION Lamp (red ⊟)
⑧ TIMER Lamp (orange ◴)
⑨ TURBO COOL Lamp (green ◠)
⑩ Air inlet

2. Rear view



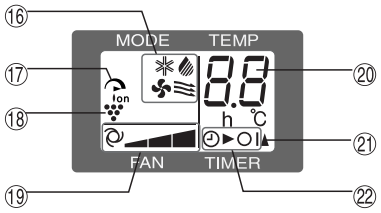
⑪ Exhaust air outlet
⑫ Exhaust adapter
⑬ Exhaust hose
⑭ Remote control hook
⑮ Air filters
⑯ Drainage nozzle and stopcock
⑰ Power supply cord hooks
⑱ Drainpipe nozzle and stopcock
⑲ Power supply cord
⑳ Power plug
㉑ Casters (4)

3. Remote control



① **Transmitter**
② **Display**
③ **ON/OFF Button**
④ **DISPLAY Button**
⑤ **TEMPERATURE Button**
⑥ **PLASMACLUSTER Button**
⑦ **1 hr OFF Button**
⑧ **MODE Button**
⑨ **ON TIMER Button**
⑩ **FAN Button**
⑪ **OFF TIMER Button**
⑫ **CANCEL Button**
⑬ **SWING Button**
⑭ **RESET Button**
⑮ **TURBO COOL Button**

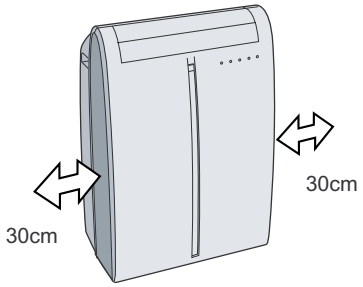
4. Remote control display



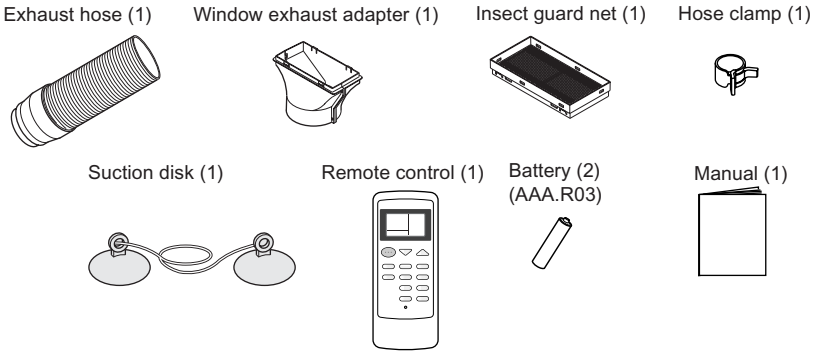
⑯ **MODE SYMBOLS**
: COOL : DEHUMIDIFICATION
: FAN : VENTILATION
⑰ **TURBO COOL SYMBOL**
⑱ **PLASMACLUSTER SYMBOL**
⑲ **FAN SPEED SYMBOLS**
: AUTO : Manual setting
⑳ **TEMPERATURE AND TIMER COUNT DOWN INDICATOR**
㉑ **TRANSMITTING SYMBOL**
㉒ **ON TIMER/OFF TIMER SYMBOL**

[2] LOCATION

- The air conditioner should be placed on a firm foundation to minimize noise and vibration. For safe and secure positioning, place the unit on a smooth, level floorstrong enough to support the unit.
- The unit has casters to aid placement, but it should only be rolled on smooth, flat surfaces. Use caution when rolling on carpet surfaces. Do not attempt to roll the unitover objects.
- The unit must be placed within reach of a properly rate dgrounded socket.
- Never place any obstacles around the air inlet or outletof the unit.
- Allow at least 12" (30cm) of space from the wall for efficient air-conditioning.



[3] INCLUDED



SUGGESTED TOOLS FOR WINDOW PANEL INSTALLATION

1. Screwdriver(medium size Phillips)
2. Tape measure or ruler
3. Knife or scissors
4. Saw (In the event that the window panel needs to be cut down in size because thewindow is too narrow for direct installation.)

[4] INSTALLATION AND REMOVAL OF EXHAUST HOSE

Theexhausthosemustbeinstalledorremovedinaccordancewiththeusagemode.

Mode	Exhaust hose
COOL, FAN, VENTILATION	Install
DEHUMIDIFICATION	Remove

Installation of the exhaust hose

1 Attachtheinsectguardnettotheexhaustadapter

Pushtheinsectguard net firmly to ensure that four projectionson the exhaustadapter fit into the four holes on it.

2 Attach the Exhaustadaptertothe exhaust hose.

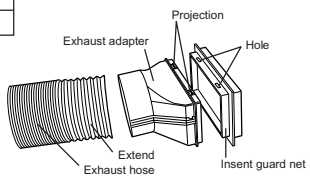
Extend one end of the exhausthose and insertit into the Exhaustadapter,and turn it (approx. three times) until it stops Make sure they are securely attached afterwards.

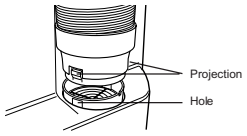
3 Attachthe exhausthoseadaptertothe unit.

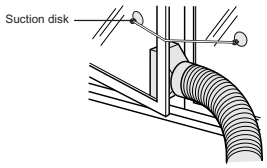
Insert the two projections on the exhaust hoseadapterinto thetwo holeson the unit, and firmly attach them to each other

4 Lead the exhaust hose outdoor

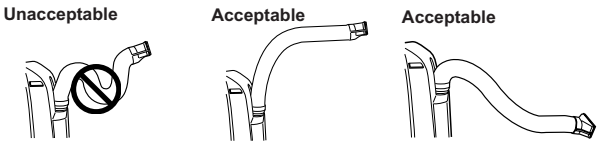
Suctiondiskmaybe usedto keepwindow or door closed.







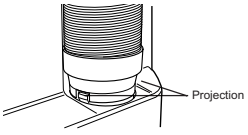
The exhausthoseshouldbe as shortas possiblefor operationalefficiency; however, it must not be twisted or bent



Removal of the exhaust hose

1 Removethe exhausthoseadapterfrom the unit.

Lift up and remove the exhaust hose adapter from the unit by pushing down on the two projections.



[5] PRE-OPERATION CHECKS

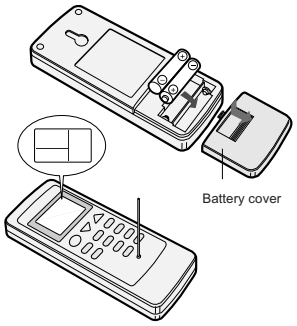
LOADING BATTERIES Use two AAA (R03) batteries.

1 **Remove the battery cover at the back of the remote control.**

2 **Insert batteries into the compartment, making sure the ⊕ and ⊖ polarities are correctly aligned.**
- Lines will appear on the display when batteries are properly installed.

3 **Reattach the battery cover.**

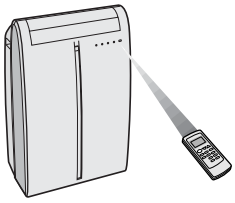
4 **Press the RESET button using a thin pointed implement.**



NOTES:
- The battery should last approximately one year under normal use.
- When replacing the batteries, always change both batteries at the same time, and make sure they are the same type.
- If the remote control does not operate normally after replacing the batteries, press the RESET button using a thin pointed implement.
- If you will not be using the unit for a prolonged period, remove the batteries from the remote control.

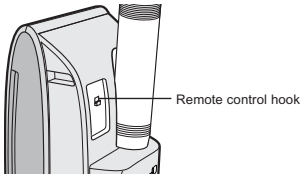
HOW TO USE THE REMOTE CONTROL

Point the remote control towards the units signal receiver window and press the desired button. A beep will sound when the unit receives the signal.
- Make sure nothing, such as curtains, blocks the signal receiver window.
- The remote control operates up to 7 meters away.



CAUTION
- Do not expose the signal receiver window to direct sunlight. This may adversely affect its operation. If necessary, close the curtains to block out the sunlight.
- Use of a fluorescent lamp in the same room may interfere with transmission of the signal.
- The unit may be affected by signals emitted from other remote controllers for televisions, VCRs or other equipment used in the same room.
- Do not leave the remote control exposed to direct sunlight or near a heater. Protect the remote control from moisture and shock which can discolor or damage it.

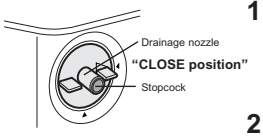
To prevent the remote control from being misplaced, hook it to the unit when not in use.
When attached, to remove the remote control from the unit, lift the remote control up slightly and pull it out.



[6] OPERATION MODE

1. Cool mode

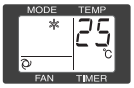
Install the exhaust hose (See Page 8), turn the drainage nozzle to the CLOSE position, and check the drainage nozzle is covered with the stopcock.



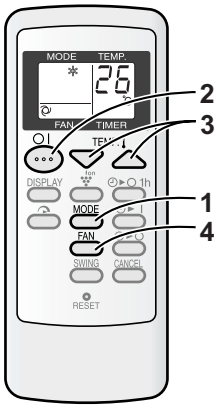
1 **Press the MODE button to select COOL mode.**

2 **Press the ON/OFF button to start operation.**
- The red OPERATION lamp (⊟) on the unit will light.

3 **Press the TEMPERATURE button to set the desired temperature.**
- The temperature can be set within the range of 18°C to 32°C.



4 **Press the FAN button to set the desired fan speed.**

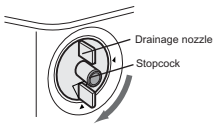


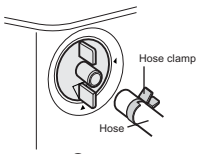
TO TURN OFF

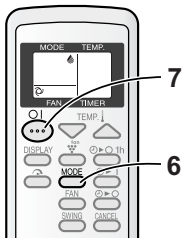
Press the ON/OFF button again.
- The red OPERATION lamp (⊟) on the unit will turn off.

2. Dehumidification mode

In this mode, the air conditioner dehumidifies the room.







1 **Remove the exhaust hose (See Page 8)**

2 **Turn the drainage nozzle to the OPEN position.**

3 **Pull the stopcock out from the drainage nozzle.**
- When the stopcock is removed, a small amount of water may be discharged from the drainage nozzle.
- Always perform this procedure with the unit turned off. Drain water will spout out if attempted during operation.

4 **Insert the hose clamp into a standard commercially-available hose (12.7 mm inner diameter, 16.7 mm outer diameter)**

5 **Attach the hose to the drainage nozzle, and secure it with the hose clamp.**
- Depending on room condition, approximately 28 liters of water per day (24 hours) will be dehumidified.
  Prepare some kind of bucket of appropriate size to collect drain water, or take some appropriate measure to drain the water outside of the room, so that drain water will not overflow or soak your room.
- Set the hose sloping downwards for easier drainage. Moreover, do not bend the hose at any point, nor allow the end to be submerged in water.

6 **Press the MODE button to select DEHUMIDIFICATION mode.**

7 **Press the ON/OFF button to start operation.**
- The red OPERATION lamp (⊟)on the unit will light.
- The temperature cannot be set.
- The fan speed is preset to AUTO and cannot be changed.

TO TURN OFF

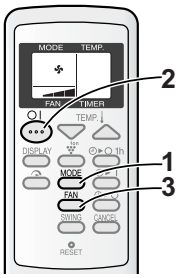
Press the ON/OFF button again.
- The red OPERATION lamp (⊟)on the unit will turn off.

CAUTION
The unit generates heat during dehumidification mode and the room temperature will rise. Install the exhaust hose if you do not want the room temperature to rise. This will help to slightly drop the room temperature, but dehumidification performance will become less effective than when operating without the exhaust hose.

3. Fan mode

In this mode, the air conditioner simply circulates the air without cooling it.

Install the exhaust hose (See Page 8), turn the drainage nozzle to the CLOSE position, and check the drainage nozzle is covered with the stopcock.



1 Press the MODE button to select FAN mode.

COOL → DEHUM → FAN → VENT

2 Press the ON/OFF button to start operation.
- The red OPERATION lamp ( ) on the unit will light.
- The temperature cannot be set.

3 Press the FAN button to set the desired fan speed.

QUIET → LOW → HIGH

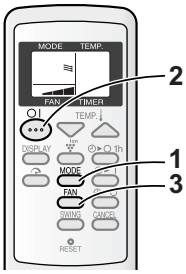
TO TURN OFF

Press the ON/OFF button again.
- The red OPERATION lamp ( ) on the unit will turn off.

4. Ventilation mode

In this mode, the air conditioner ventilates the air to outdoors.

Install the exhaust hose (See Page 8), turn the drainage nozzle to the CLOSE position, and check the drainage nozzle is covered with the stopcock.



1 Press the MODE button to select VENT mode.

COOL → DEHUM → FAN → VENT

2 Press the ON/OFF button to start operation.
- The red OPERATION lamp ( ) on the unit will light.
- The temperature cannot be set.

3 Press the FAN button to set the desired fan speed.
- Although the louvers are closed and no air blows out into the room, the external ventilation fan speed changes.

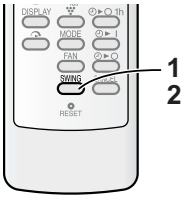
QUIET → LOW → HIGH

TO TURN OFF

Press the ON/OFF button again.
- The red OPERATION lamp ( ) on the unit will turn off.

5. To change air flow direction

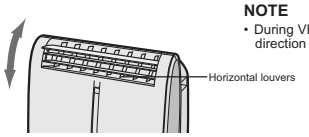
UP/DOWN AIR FLOW DIRECTION



1 Press the SWING button on the remote control.
- The horizontal louvers will swing continuously.

2 Press the SWING button again when the horizontal louvers are at the desired position.
- The horizontal louvers will stop moving.
- The adjusted position will be memorized and the same position will be set automatically when operated the next time.

NOTE
- During VENTILATION mode, UP/DOWN air flow direction cannot be changed.



LEFT/RIGHT AIR FLOW DIRECTION

Hold the vertical louver as shown in the diagram and adjust the air flow direction.

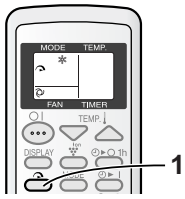
CAUTION

Never attempt to adjust the horizontal louvers manually.
- Manual adjustment of the horizontal louvers can cause the unit to malfunction when the remote control is used for adjustment
- When the horizontal louvers are positioned at the lowest position in the COOL or DEHUMIDIFICATION mode for an extended period of time, condensation may result.

Do not adjust the vertical louvers to the extreme left or right in the COOL mode with the fan speed set to "QUIET ( )" for an extended period of time.
Condensation may form on the louvers.

6. Turbo cool operation

In this operation, the air conditioner fan works at extra high speed with a setting temperature of 15°C.



1 Press the TURBO COOL button during cooling mode.
- The remote control will display " ".
- The temperature display will go off.
- The green TURBO COOL lamp ( ) on the unit will light.

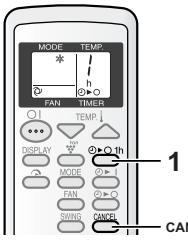
TO CANCEL

Press the TURBO COOL button again.
- TURBO COOL operation is also cancelled when the mode is changed, or when the unit is turned off.
- The green TURBO COOL lamp ( ) on the unit will turn off.

NOTES:
- You cannot set the temperature or fan speed during TURBO COOL operation.
- The fan returns to the HIGH speed setting after the unit has run for 30 minutes in TURBO COOL mode.
- The extra high fan speed may automatically slow down to protect the unit.

7. One-hour off timer

When the ONE-HOUR OFF TIMER is set, the unit will automatically turn off after one hour.



1 Press the 1hr OFF button.
- The remote control displays " 1h ".
- The orange TIMER lamp ( ) on the unit will light.
- The unit will stop operating after one hour.

TO CANCEL

Press the CANCEL button.
- The orange TIMER lamp ( ) on the unit will turn off.

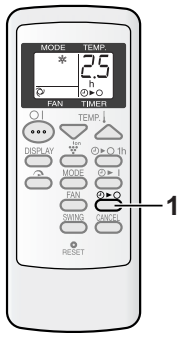
Alternatively, turn the unit off by pressing the ON/OFF button.
- The red OPERATION lamp ( ) and the orange TIMER lamp ( ) on the unit will turn off.

NOTES:
- The ONE-HOUR OFF TIMER operation has priority over ON TIMER and OFF TIMER operations.
- If the ONE-HOUR OFF TIMER is set while the unit is not operating, the unit will operate for an hour at the formerly set condition.
- If you wish to operate the unit for another hour before the ONE-HOUR OFF TIMER is activated, press the 1hr OFF TIMER button again during operation.

8. Timer operation

8.1. Off timer

The unit will turn off automatically according to your setting.
Timer duration can be set from a minimum of half an hour (30 minutes) to a maximum of 12 hours.
Up to 9.5 hours, you can set in half-hour (30-minutes) increments and from 10 to 12 hours, in 1-hour increments.



Display shown when you set the unit to turn off 2.5 hours later.

Point the remote control at the signal receiver window on the unit.

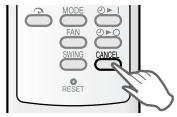
1 Press the OFF TIMER ( ) button and set the time as desired.
- The time setting will change as you press the button as follows.

0.5h → 1.0h → 1.5h · · → 10h → 11h → 12h

Hold the button down to speed through the settings.
- The orange TIMER lamp ( ) on the unit will light.
- The unit will emit a beep when it receives the signal.
- The time setting will count down to show the remaining time.

TO CANCEL TIMER

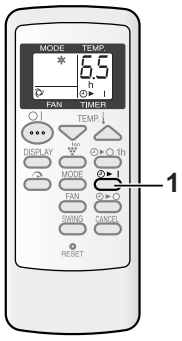
Press the CANCEL button.
- The orange TIMER lamp on the unit will turn off.



NOTES ON TIMER SETTING AND OPERATION
- The latest time setting will be memorized and will appear on the remote control display the next time you set the OFF TIMER or ON TIMER.
- The OFF TIMER and ON TIMER can not be set together. Only the most recent TIMER setting will be valid.
- While the ONE-HOUR OFF TIMER is set, the OFF TIMER and ON TIMER is settings are unavailable.
- If the ONE-HOUR OFF TIMER is set while the OFF TIMER or ON TIMER activated, the ON TIMER or OFF TIMER setting will be cancelled.
- If a power failure occurs while the OFF TIMER or ON TIMER is set, the TIMER setting will be cancelled and will not be retrieved even after the power is restored.

8.2. On timer

The unit will turn on automatically according to your setting
Timerduration canbesetfrom aminimum of halfanhour(30minutes)to amaximum of 12 hours.
Up to 9.5hours,you can setin half-hour(30-minute)incrementsand from 10 to 12 hours, in 1-hour increments.



Displayshownwhenyouset the unit to turn on 6.5hours later.

Point the remote control at the signal receiverwindow on the unit.

1 Press the ON TIMER ( ) button.
- The time setting will change as you press the buttto as follows.

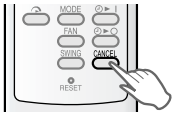
0.5h→1.0h→1.5h ··10h→1h→2h

Hold the button down to speedthrough the settings.
- The orange TIMER lamp ( ) on the unit will light
- Theunit will emit a beep when it receives the signal
- Thetime setting will count down to showthe remaining time.

Selectthe mode, temperature, fan speedsetting and PLASMACLUSTER operation as desired.
- Whenthe temperatureissetwith the ONTIMER,the temperature will show in the display for 5 seconds and then return to the time display.
- If you do not change the setting, the unit will operat using the most recent setting.

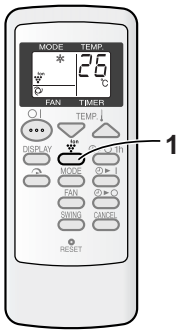
TO CANCEL TIMER

Press the CANCEL button.
- The orange TIMER lamp on the unit will turn off.



9. Plasmacluster operation

The Plasmacluster ion generator inside the air conditioner will release positive and negative Plasmacluster ions into the room. Approximately the same numbers of positive and negative ions released into the air will reduce some airborn mold.



1 Press the PLASMACLUSTER button during operation.
- The remote control will display " ".
- The blue PLASMACLUSTER lamp on the unit will light.

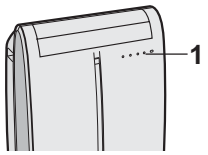
TO CANCEL

Press the PLASMACLUSTER button again.
- The PLASMACLUSTER lamp on the unit will turn off.

NOTES:
- Use of the PLASMACLUSTER function will be memorizedand it will beactivatedthe nexttime youturn on the air conditioner
- To turn off the PLASMACLUSTER Lamp, press the DISPLAY button.
- PLASMACLUSTER operation cannot be set during VENTILATION mode.

10. Auxiliary mode

Use this mode when the remote control is not available.



1 Press the AUX. button on the unit.
- The red OPERATION lamp ( ) on the unit will light and the unit will start operating in COOL mode.
- The fan speed is set to AUTO.
- The temperature setting is automatically set according to the room temperature.

TO TURN OFF

Press the AUX. button again.
- The red OPERATION lamp ( ) on the unit will turn off.

NOTES:
- If the AUX. button is pressed during normal operation, the unit will turn off.
- Upon starting AUXILIARY operation, the drainage pump inside the unit runs for about a minute, which may produce an audible gurgling sound.

[7] DRAINAGE

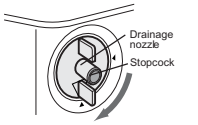
Prepare for drainage and drain out water within the unit in the following cases.

If the unit stops operating and the TIMER ( ), OPERATION ( ) and TURBO COOL ( ) lamps are blinking. (This indicates that the water tank inside the unit is full.)

1 Make sure to turn the unit off.

2 Turn the drainagenozzle to the OPEN position.

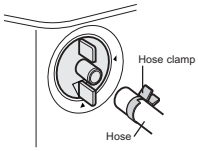
3 Pull the stopcockout from the drainage nozzle.
- Whenthe stopcockis removed,a small amount of watermaybedischargedfrom the drainagenozzle.



"OPEN position"

4 Insert the hose clamp into a standard commercially available hose (12.7 mm inner diameter, 16.7 mm outer diameter).

5 Attach the hose to the drainage nozzle, and secure it with the hose clamp.
- Preparefor draining, asdrain water will come out through the hose during operation.



6 Press the AUX. button on the unit twice.
- Thewaterwill drain out through the drainagehose. Mximum amount of water that may be drained out is approximately 2 liters.
- The OPERATIONTIMERand TURBOCOOL lamps will be blinking.

7 When drainage water stops running out from the hose, turn the unit off by pressing AUX. button.
- This would take about one minute.

8 Remove the hose from the drainage nozzle, and replace the stopcock.
- Keep the hose clamp in case of re-used.

9 Turn the drainage nozzle to the CLOSE position.

Whenever the unit is moved (to provent water within the unit from spilling).
When the unit is not used for a long time.

1 Carry out the above procedures from 1 to 5.

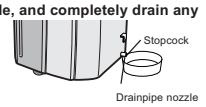
2 Press the AUX. button on the unit.
- The water will drain out through the drainage hose. Mximum amount of water that may be drained out is approximately 2 liters.
- The OPERATION lamps will light.

3 When drainage water stops running out from the hose, turn the unit off by pressing AUX. button.
- This would take about one minute.

4 Remove the hose from the drainage nozzle, and replace the stopcock.
- Keep the hose clamp in case of re-used.

5 Turn the drainage nozzle to the CLOSE position.

6 Remove the stopcock from the drainpipe nozzle, and completely drain any water within the unit.
- Always prepare a receptacle to collect the water before draining. Mximum amount of water that may be drained out is approximately 0.2 liters.



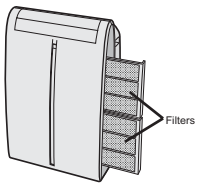
7 Replace the stopcock to the drainpipe nozzle.

[8] MAINTENANCE

Be sure to disconnect the power from the wall socket before performing any maintenance.

CLEANING THE FILTERS

If the filter is clogged with dust, the airflow will be reduced, resulting in poor cooling performance. The filter should be cleaned every two weeks.



1 REMOVE THE FILTERS
- Gently pull the filter handle to the right and slide the filter out of the unit.

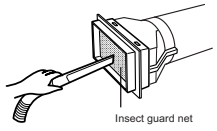
2 CLEAN THE FILTERS
- Use a vacuum cleaner to remove any dust. If the filters are very dirty, wash them with detergent and rinse carefully with clean water. Dry the filters in the shade before reinstalling them.

3 REINSTALL THE FILTERS
- Hold the filter handle and gently push the filter back into place.
  Never operate the unit without the filter. Doing so may result in serious damage to the unit.

CLEANING THE UNIT AND THE REMOTE CONTROL

Wipe them with a soft, dry cloth or with a cloth moistened with a mild soap. Carefully remove any residue by wiping with a damp cloth and dry completely.
Avoid splashing water onto the unit. Water can dangerously damage the electrical insulation.
Never use harsh chemicals or abrasive cleaners on any part of the unit. To avoid damaging the unit, do not use hot water (50°C or hotter) when cleaning.

CLEANING THE INSECT GUARD NET



The cooling performance may be reduced or stop completely if the insect guard net becomes clogged with dust.
Clean the insect guard net with a vacuum cleaner or suchlike.

MAINTENANCE AFTER AIR CONDITIONER SEASON

1 Perform drainage to drain out water within the unit. (See Page 17 "When the unit is not used for a long time)".

2 Operate the unit the FAN or VENTILATION mode for about half a day to thoroughy dry inside the unit.

3 Clean the filters, then reinstall them.

CHAPTER 3. DISASSEMBLING PROCEDURE

[1] PROCEDURE FOR DISASSEMBLY

"ACTUAL UNITS MAY VARY SLIGHTLY FROM THOSE PICTURES BELOW"

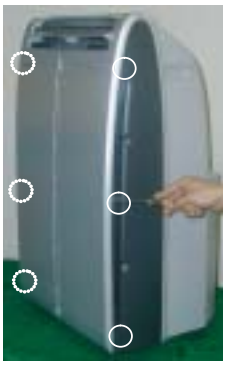
CAUTION:
- DISCONNECT THE PORTABLE TYPE ROOM AIR CONDITIONER FROM THE POWER SUPPLY BEFORE ANY SERVICE.
- DISCONNECT THE EXHAUST HOSE FROM THE UNIT BEFORE ANY SERVICE.(SEE PAGE 2-4)
- DRAINAGE SHOULD BE PERFORMED BEFORE ANY SERVICE.
  (SEE "WHENEVER THE UNIT IS MOVED" OF PAGE 2-7)

1. Unscrew 2 screws holding the front panel on lower both ends.

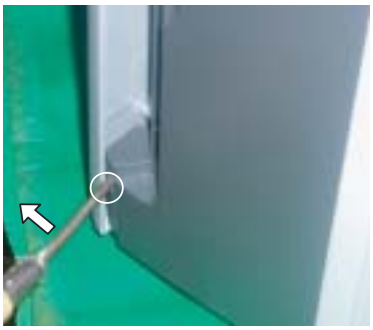
2. Remove two air filters.

3. Open horizontal louvers, as shown in below figure.

4. Unhook 6 hooks of the front panel which is at both sides in an order from the lower position using flathead screw driver. <6 parts>



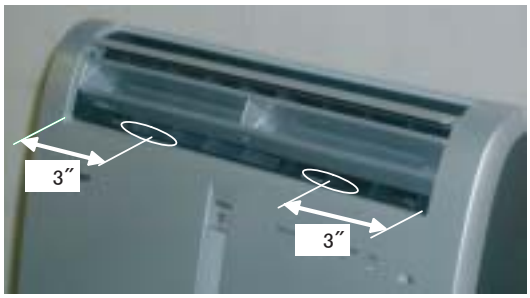
1) Insert flathead screw driver into the position shown in below figure. Then gently pry the driver to the arrow mark direction, to unhook the lower hooks (both sides).



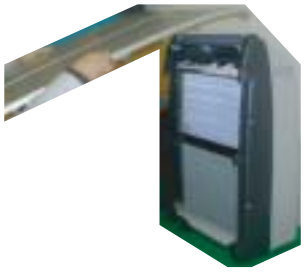
2) Insert flathead screw driver into the position shown in below figure. Then gently pry the driver to the arrow mark direction, to unhook the middle hooks (both sides).

3) Insert flathead screw driver into the position shown in below figure. Then gently pry the driver to the arrow mark direction, to unhook the upper hooks (both sides).

5. Push down the orifice (at position of illustration), as shown in below figure, to unhook 2 hooks of front panel.



6. Remove the front panel by pulling it at the lower corner toward you as shown in a figure, and next lift it up and pull it toward you.



7. Unscrew 6 screws holding the side panel L and R.
   Remove side panel L and R.

8. Remove the stopcock from the drainpipe nozzle.

9. Unscrew 12 screws holding the cabinet.
   6 screws are on each sides.
   6 screws are on back side of unit.

10. Remove the cabinet by lifting it up and pulling toward you as shown in below figure.

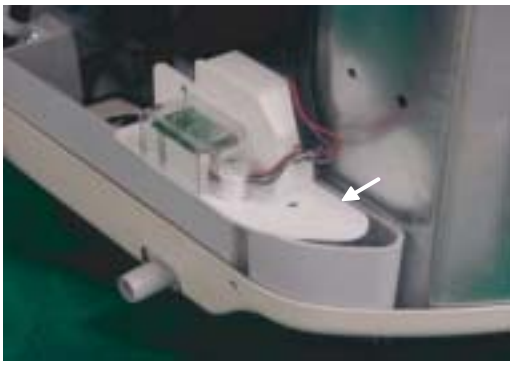
11. Unscrew 4 screws holding the control box cover.

12. Remove the control box cover, as shown in below figure.

CAUTION: DISCHARGE THE FAN MOTOR CAPACITOR AND RUNNING CAPACITOR BEFORE TOUCHING THESE CAPACITORS OR OTHER COMPONENTS OR WIRING.

13. Unscrew 2 screws holding the float switch ass'y.

Then move the float switch a little from bulkhead L.



14. Unscrew 6 screws holding the bulkhead L.

Remove the wire from wire holder.(2 parts)

Then remove the bulkhead L by pulling it toward the arrow mark in below figure and next lift it up toward you.

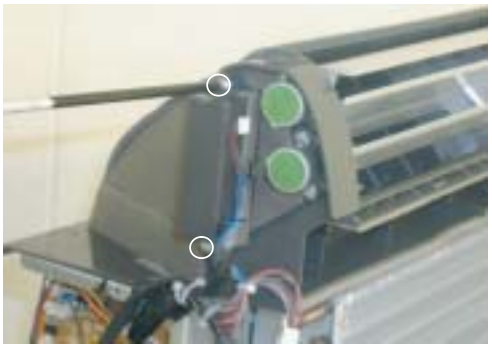
15. Unscrew 7 screws holding the stay angle L.
    Remove the stay angle L.

16. Unscrew 3 screws holding the led guide.
    Remove the led guide.

17. Disconnect two louver motor connectors.

CAUTION: CONNECT THE CONNECTOR OF LOUVER MOTOR CORRECTLY WHEN RE-ASSEMBLYING.
White connector : Upper louver motor
Black connector : Lower louver motor

18. Unscrew 2 screws holding the cluster holder.
    Remove the cluster holder.

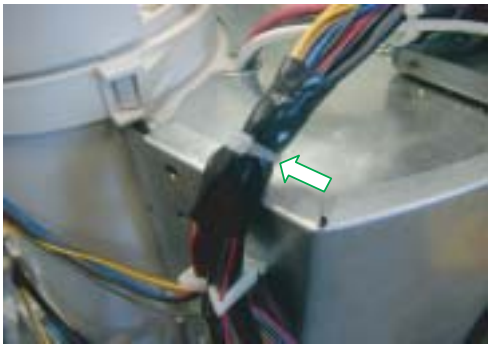


19. Remove the plasmacluster unit and cluster cover.
    Disconnect the connector of plasmacluster unit.

20. Unscrew 5 screws holding the top duct
    Remove the top duct

21. Cut the fixing band holding the wire and tape. Then remove the tape.

CAUTION: KEEP THE TAPE IN CASE OF RE-ASSEMBLYING.



22.Unscrew 2 screws holding the cover.

23.Unscrew 1screw holding the terminal board.

24.Cut the fixing band holding the wires.(7 parts)

Disconnect 8 connectors.

CAUTION: CONNECT THE CONNECTORS OF FAN MOTOR ETC.
CORRECTLY WHEN RE-ASSEMBLYING.

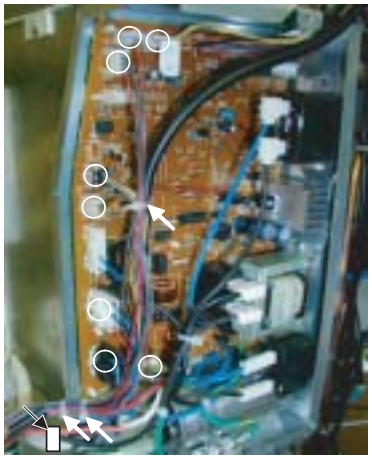
CN6 : OUTDOOR FAN MOTOR(BLACK AND SMALL)

CN4 : INDOOR FAN MOTOR(WHITE AND SMALL)

CN3 : INDOOR FAN MOTOR(WHITE AND LARGE)

CN5 : OUTDOOR FAN MOTOR(BLACK AND LARGE)

CN13 : LEAD WIRE FOR FLOAT SWITCH ASS'Y(4P)



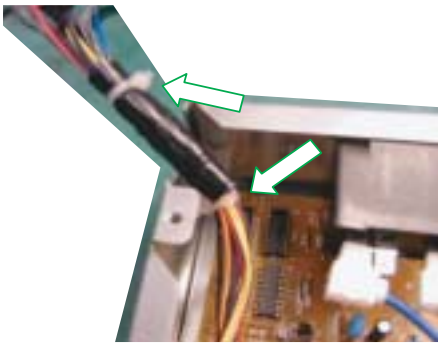
25.Cut the fixing band holding the wires.(1 part)

26.Cut the fixing band holding the wire and tape.

Then remove the tape.

CAUTION: KEEP THE TAPE IN CASE OF RE-ASSEMBLYING.

Then cut the fixing band holding the wires.



27.Disconnect the micro switch connector.

*Lower micro switch only.

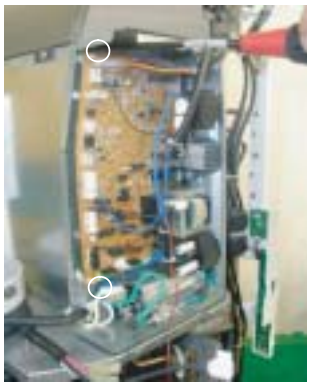
28.Unscrew 3 screws holding the wire holders.

29. Remove wiring connectors of the compressor cord by using long-nose pliers.(3 parts)

CAUTION: DISCHARGE THE FAN MOTOR CAPACITOR AND RUNNING CAPACITOR BEFORE TOUCHING THESE CAPACITORS OR OTHER COMPONENTS OR WIRING.

30. Unscrew 2 screws holding the control box.

Remove the control box from the unit.

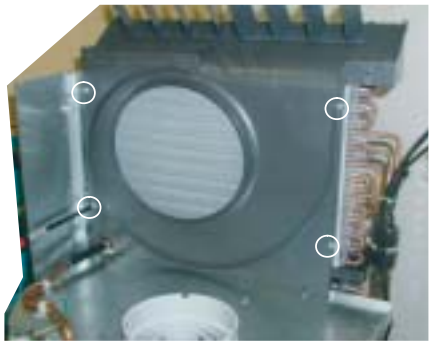


31. Unscrew 6 screws holding the casing cover.

Remove the casing cover from the unit.

32. Unscrew 4 screws holding the orifice.

Remove the orifice from the unit.



Then turn the band to the direction, as shown in below figure.

CAUTION: RETURN THE BAND TO THE ORIGINAL DIRECTION WHEN RE-ASSEMBLYING.

33. Move the band to the direction shown in below figure (approx.11/16").

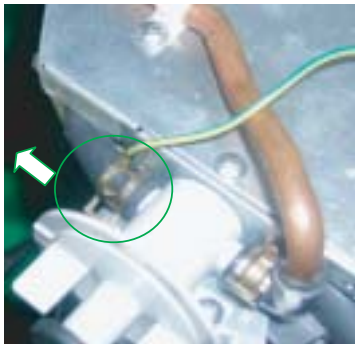
Then removed the drain hose B.

34. Unscrew the screw holding the lead wire.

35. Turn the band, as shown in below figure.

CAUTION: RETURN THE BAND TO THE ORIGINAL DIRECTION WHEN RE-ASSEBLYING.

Move the band to the direction of the arrow(approx.11/16"), and removed the drain hose A.



36.Unscrew 4 screws holding the half plate.

Then remove the half plate by lifting it up and pulling toward you as shown in below figure.

37.Unscrew 6 screws holding the out casing.

Remove the out casing from the unit.

38.Unscrew 6 screws holding the stay angle R.

Remove the stay angle R from the unit.

39.Unscrew 3 screws holding the drain pump ass'y.

Remove the drain pump ass'y from the unit.

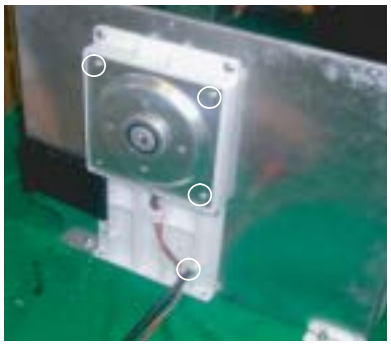
40.Unfasten and remove the nut holding the terminal cover at the top of compressor.

Then remove the wiring connector of the compressor cord.

41.Unscrew the screw holding the centrifugal fan.

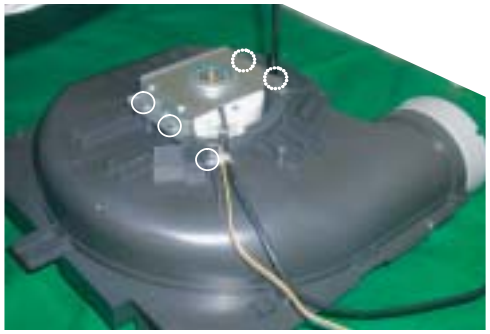
Remove the centrifugal fan.

42.Unscrew 4 screws holding the motor cover and wire holder.
Remove the motor cover.
Then remove the fan motor.



43.Unscrew the screw holding the centrifugal fan.

44.Unscrew 5 screws holding the motor cover and wire holder.
Remove the motor cover.
Then remove the fan motor.



45.Remove the 2 motor cushions on each side.

46.Loosen 2 screws holding the motor cover B.
* Do not remove 2 screws and 2 nuts.

47.Remove the motor cover A.

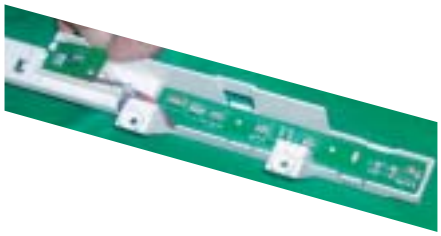
48.Slide and remove motor cover B, C and D, as shown in below figure.

[2] DISASSEMBLING THE CONTROL BOX

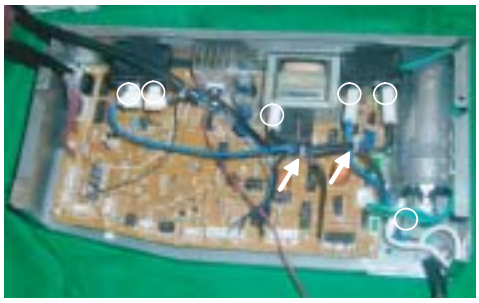
CAUTION: DISCHARGE THE FAN MOTOR CAPACITOR AND RUNNING CAPACITOR BEFORE TOUCHING THESE CAPACITORS OR OTHER COMPONENTS OR WIRING.

1. Cut fixing bands holding the wires.(2 parts)

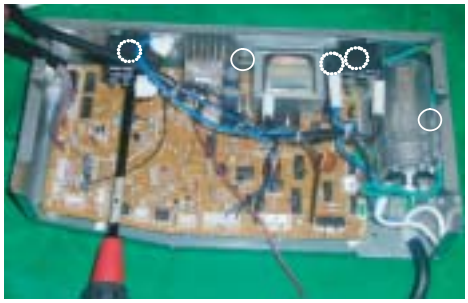
2. Remove 2 P.W.B.



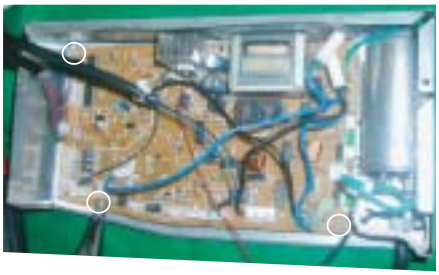
3. Cut fixing bands holding the wires.(2 parts)
   Disconnect 6 connectors.



4. Unscrew 5 screws holding fan motor capacitor, transformer and lead wire (earth).

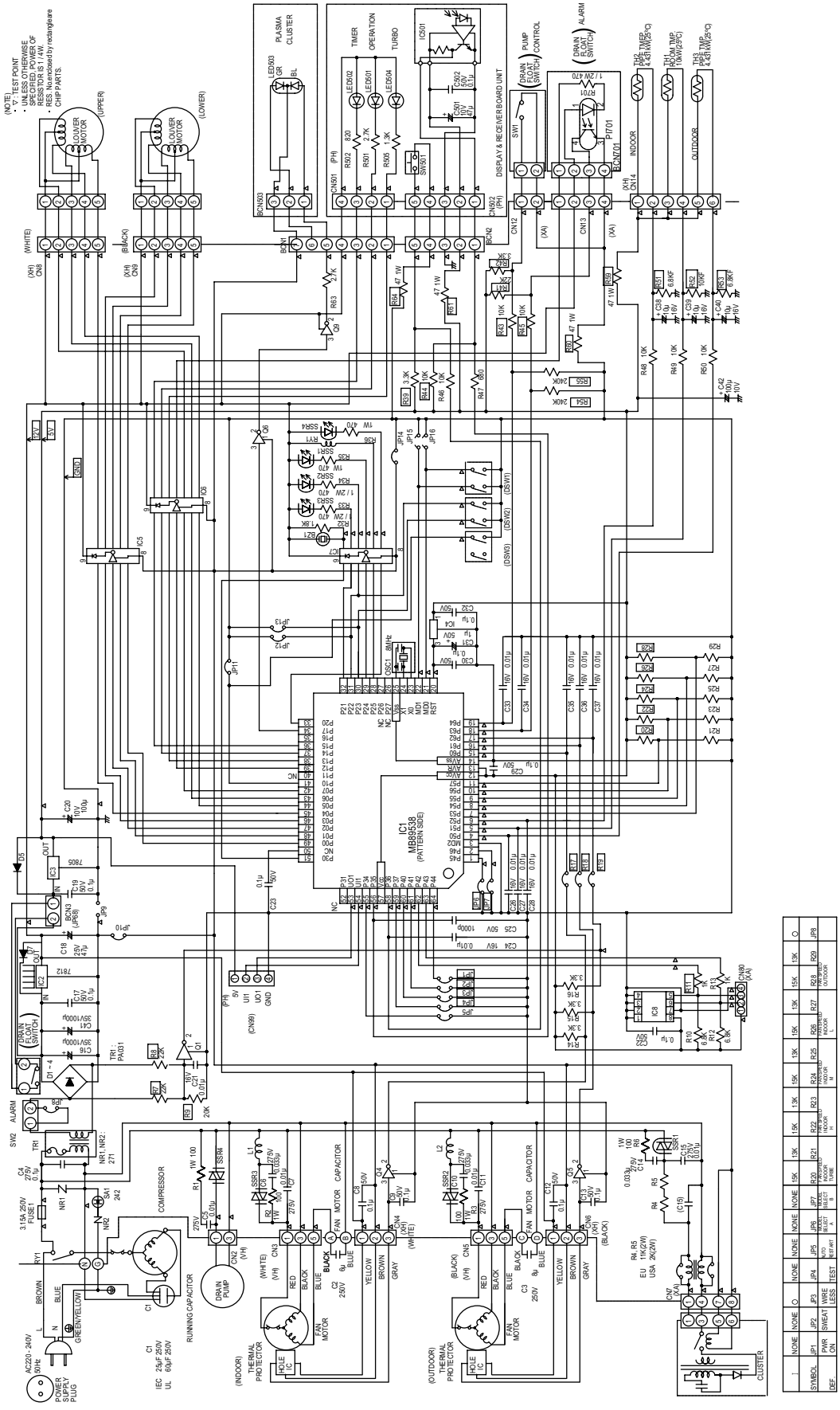


5. Remove the control board by unhooking 3 spacers.

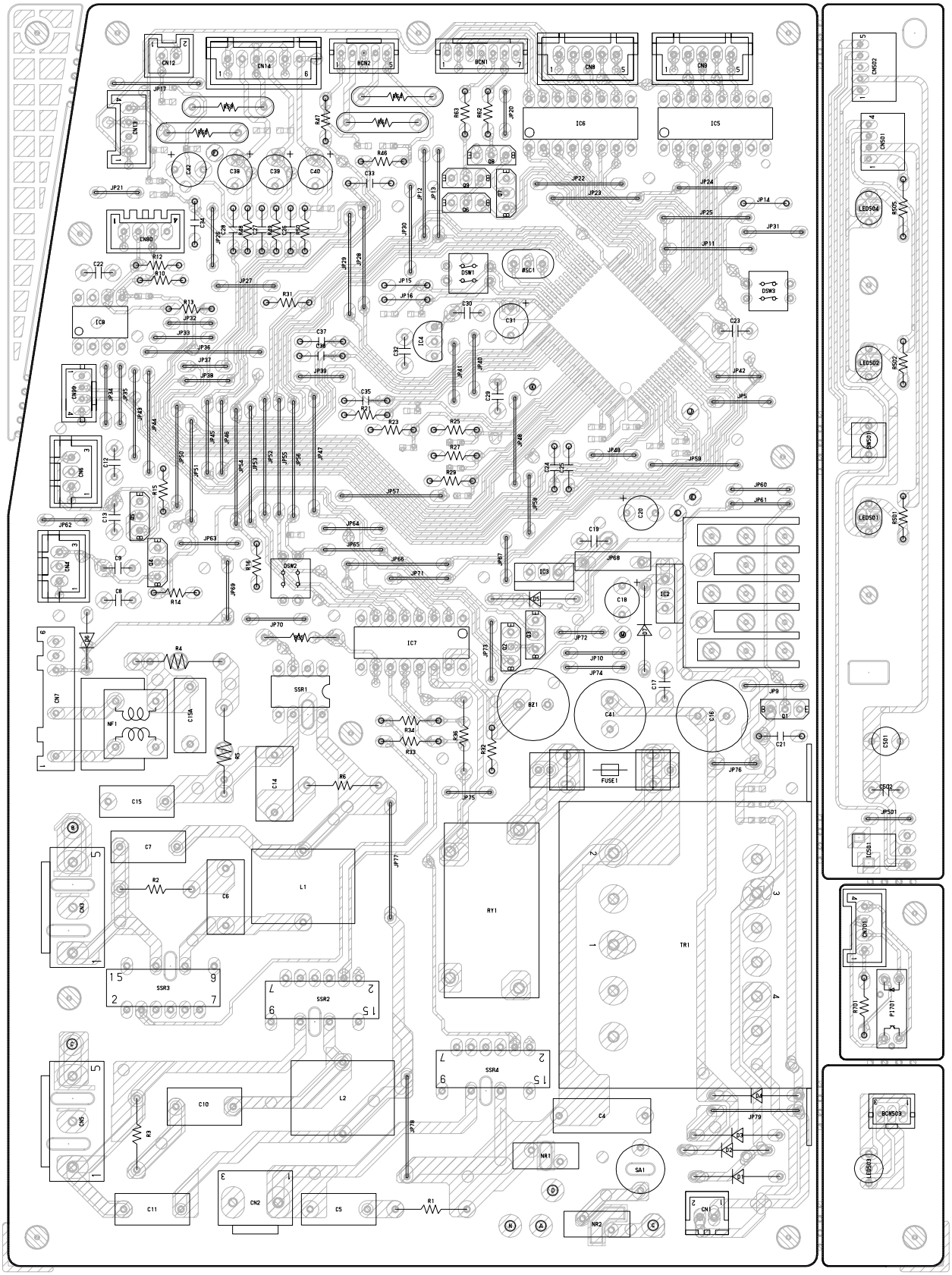


CHAPTER 4. EXPLANATION OF CIRCUIT AND OPERATION

[1] ELECTRONIC CONTROL CIRCUIT DIAGRAM



[2] PRINTED WIRING BOARD



[3] FUNCTION

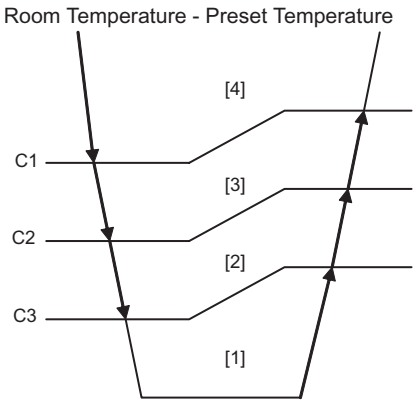
1. Cool Operation

In the "COOL" mode, the thermostat circuit is controlled by 3 thermostat lines(C1~C3).

When the difference between Room Temperature and Preset Temperature is in [2]~[4] area, compressor is driving or starts driving. If [1] area is detected, compressor will stop. And indoor fan speed is set as following speed.

Room Temperature—Preset Temperature

C1	0.5 / 1.5°C
C2	0.0 / 0.5°C
C3	-1.5 / -0.5°C



Indoor fan speed

Area	Customer Setting			
	L	M	H	AUTO
[4]	CL	CM	CH	CAH
[3]				CM
[2]				CAL
[1]				

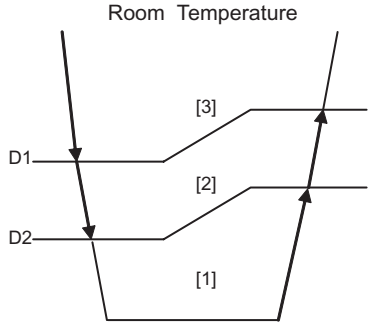
2. Dehumidification Operation

In the "Dehumidification" Mode, compressor is controlled by room temperature. If it goes over D1 line and gets into the area [3], or if it lowers than D2 line and gets into the area [1], compressor will stop.

If the evaporator temperature is lower than D3 line, indoor fan speed will be DH and if the evaporator temperature is higher than D3 line, indoor fan speed will be DL when the room temperature is in area [2].

Room Temperature

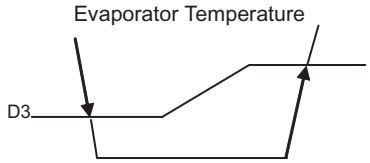
D1	44 / 45°C
D2	10 / 11°C



Indoor fan speed

Evaporator Temperature	Customer Setting
	AUTO
Lower than D3	DH
Higher than D3	DL

D3	12 /16°C



3. Fan Operation

In the "Fan" mode, compressor and outdoor fan doesn't operate. Indoor fan motor operates as follows.

Indoor fan speed

Customer Setting		
L	M	H
AL	AM	AH

4. Ventilating Operation

In the "Ventilation" mode, compressor and indoor fan doesn't operate. Outdoor fan motor operates as follows.

Indoor fan speed

Customer Setting		
L	M	H
600[rpm]	900[rpm]	1200[rpm]

5. Indoor Fan Speed

Fan speeds are given by the indoor fan motor, "DL"~"AH" which are available in the following operation mode.

In the "COOL" or "DRY" mode, indoor fan speed is different by condenser temperature.

Fan Speed		Setting		[rpm]
DEHUM	DL	-	AUTO	370 ~ 520
	DH	-	AUTO	500 ~ 650
COOL	CL	COOL SOFT	-	370 ~ 520
	CAL	-	AUTO	450 ~ 600
	WET	-	-	450 ~ 600
	CM	COOL LOW	AUTO	500 ~ 650
	CAH	-	AUTO	600 ~ 750
	CH	COOL HIGH	-	650 ~ 800
FAN ONLY	AL	FAN ONLY	-	520
	AM	FAN ONLY	-	640
	AH	FAN ONLY	-	750

6. Overheating protection system

If the condenser temperature goes over 58°C during the cooling or dry operation, outdoor fan speed will rise to prevent the overloading of the compressor and restrain the rise in high pressure, and If it lowers than 57°C, outdoor fan speed will return.

If the condenser temperature goes over 70°C during the cooling or dry operation, compressor will stop and if it lowers than 65°C, compressor will restart after 3 minutes.

7. Freeze preventive

When the indoor pipe temperature falls below 0ºC during cool operation or dry operation, the compressor is turned off. And if the indoor pipe temperature rises exceeds 4ºC after 3 minutes, the compressor will restart.

8. Timer

8.1. OFF TIMER

Set the OFF-TIMER.

The unit will turn off automatically according to your setting. Timer duration can be set by 0.5 hours to maximum 12 hours. Up to 9.5 hours, you can set by 0.5hours increments and from 10 to 12 hours, by 1 hour increment.

8.2. ON TIMER

Set the ON-TIMER.

The unit will turn on automatically according to your setting. Timer duration can be set by 0.5 hours to maximum 12 hours. Up to 9.5 hours, you can set by 0.5hours increments and from 10 to 12 hours, by 1 hour increment.

8.3. ONE-HOUR TIMER

When ONE-HOUR timer is set, the unit turns off automatically after one hour. The one hour timer operation has priority over other time operation, such as the TIMER ON and TIMER OFF. If the ONE-HOUR TIMER button is pressed again during operation, the unit will operate additionally for another one hour.

9. AUX Button

9.1. Test Run

If the "AUX" button on the unit is pressed for 5 seconds or more during operation, cool test operation starts. The operation LED (red) flickers during test run. Continuous compressor on operation is performed.

During Test-Run mode, pump is always ON.

9.2. Aux Operation

If the "AUX" button on the unit is pressed during operation OFF, cooling operation starts.

Then setting Temperature will be is automatically set.

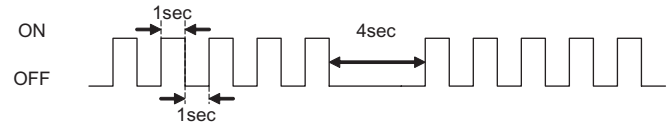
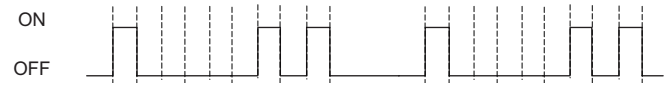
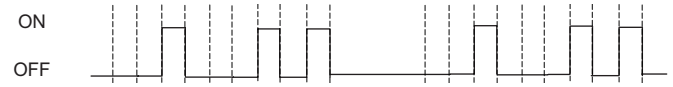
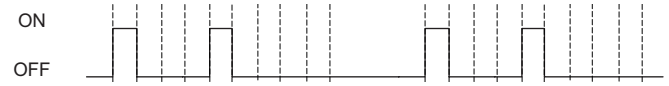
During Aux mode, pump will be ON for 1 minute since start.

10. Test mode

Keep pushing the "AUX." buttons and supply the power, the system will go to the test mode. In this mode, the output of operation is switched by pushing the "AUX." button in the unit or the "OI" button in the remote controller. Normal outputs are shown in "Self Check Mode Table"

11. Diagnostic program

When indoor fan motor is out of order or compressor lock or abnormal water level occurs, the compressor, indoor fan motor, outdoor fan motor, and louver are all stopped and the operation LED(red) turns on or off synchronously with the timing of the timer LED. When the thermistor for room temperature or pipe temperature is open or short state, the operation LED turns on or off synchronously with the timing of the timer LED by pushing continuously for more than 5 seconds "AUX." button during suspension of operation.

Timer LED		
Operation LED	Indoor fan motor	
	Outdoor fan motor	
	Thermistor short state	
	Thermistor open state	

12. Drain Pump

When drainage is accumulated the float switch becomes close condition and the microcomputer detects this for 1 minute and cause to operate drain pump. If it has passed for 3 minutes since the microcomputer detects an error by photo interrupter circuit, Compressor will stop and ALL LED will blink.

13. Plasmacluster

Whenever an indoor machine receives the signal of the plasma cluster from remote control during air conditioner operation, the operation mode regarding at the plasmacluster changes in the order of the following.

Clean mode → OFF

14. SELF-CHECK MODE

STEP	LED								P.I. Power Supply	Plasmacluster	Pump	Compressor	Eva Fan	Cond Fan	Louver (Upper Side)				Louver (Lower Side)			
	RED		YELLOW		GREEN		BLUE								A	B	C	D	A	B	C	D
0	Room Temp		Eva Temp		Cond Temp		Test Input		X	X	X	X	X	X	X	X	X	X	X	X	X	X
	44.6>107.6ºF	O	28.4>113.0ºF	O	28.4>113.0ºF	O	P37 = H	O														
	~44.6ºF, 107.6ºF~	X	~28.4ºF, 113.0ºF~	X	~28.4ºF, 113.0ºF~	X	P37 = L	X														
1	Power On Start Select		Function Select A		Function Select B		X		X	X	O	X	X	X	O	X	O	X	O	X	O	X
	P44 = H	O	P45 = H	O	P46 = H	O																
	P44 = L	X	P45 = L	X	P46 = L	X																
2	E^2PROM		Wireless		Cond Fan RPM Input		O		X	O	X	X	X	Speed 1	X	O	X	O	X	O	X	O
	OK	O	P40 = H	O	OK	O																
	NG	X	P40 = L	X	NG	X																
3	Photo Interrupter		Float SW (L)		Eva Fan RPM Input		X		O	O	O	X	CL	Speed 2	OPEN				X	X	X	X
	P64 = H	X	P63 = H	O	OK	O																
	P64 = L	O	P63 = L	X	NG	X																
4	Photo Interrupter		Float SW (L)		Sweat		Auto Restart Select		X	X	X	X	CM	Speed 3	OPEN				OPEN			
	P64 = H	X	P63 = H	O	P41 = H	O	P34 = H	O														
	P64 = L	O	P63 = L	X	P41 = L	X	P34 = L	X														
5	E^2PROM Version								X	X	O	O	CH	Speed 4	X	X	X	X	X	X	X	X
	Bit7 = 1	O	Bit6 = 1	O	Bit5 = 1	O	Bit4 = 1	O														
	Bit7 = 0	X	Bit6 = 0	X	Bit5 = 0	X	Bit4 = 0	X														
6	E^2PROM Version								X	X	X	X	AL	VL	X	X	X	X	X	X	X	X
	Bit3 = 1	O	Bit2 = 1	O	Bit1 = 1	O	Bit0 = 1	O														
	Bit3 = 0	X	Bit2 = 0	X	Bit1 = 0	X	Bit0 = 0	X														
7	P53 AD Input								X	X	O	X	AM	VM	X	X	X	X	X	X	X	X
	Bit7 = 1	O	Bit6 = 1	O	Bit5 = 1	O	Bit4 = 1	O														
	Bit7 = 0	X	Bit6 = 0	X	Bit5 = 0	X	Bit4 = 0	X														
8	P54 AD Input								X	X	X	X	AH	VH	X	X	X	X	X	X	X	X
	Bit7 = 1	O	Bit6 = 1	O	Bit5 = 1	O	Bit4 = 1	O														
	Bit7 = 0	X	Bit6 = 0	X	Bit5 = 0	X	Bit4 = 0	X														
9	P55 AD Input								X	X	O	X	Mega	VH	X	X	X	X	X	X	X	X
	Bit7 = 1	O	Bit6 = 1	O	Bit5 = 1	O	Bit4 = 1	O														
	Bit7 = 0	X	Bit6 = 0	X	Bit5 = 0	X	Bit4 = 0	X														
10	P56 AD Input								X	X	X	X	X	X	X	X	X	X	CLOSE			
	Bit7 = 1	O	Bit6 = 1	O	Bit5 = 1	O	Bit4 = 1	O														
	Bit7 = 0	X	Bit6 = 0	X	Bit5 = 0	X	Bit4 = 0	X														
11	P57 AD Input								X	X	O	X	X	X	CLOSE				CLOSE			
	Bit7 = 1	O	Bit6 = 1	O	Bit5 = 1	O	Bit4 = 1	O														
	Bit7 = 0	X	Bit6 = 0	X	Bit5 = 0	X	Bit4 = 0	X														

[4] PERFORMANCE CURVES

NOTE: 1) Use this data only as a guide to check the running condition.

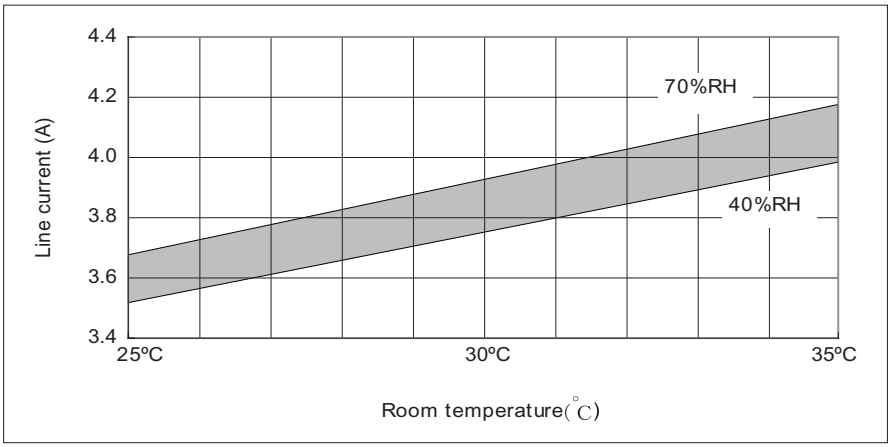
2) The running conditions of this data is as follows.

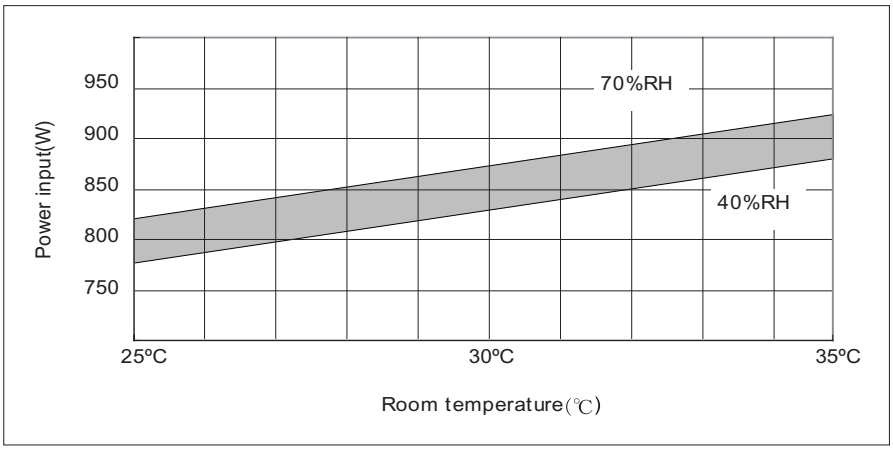
Remote control setting ..... High cool, 18ºC

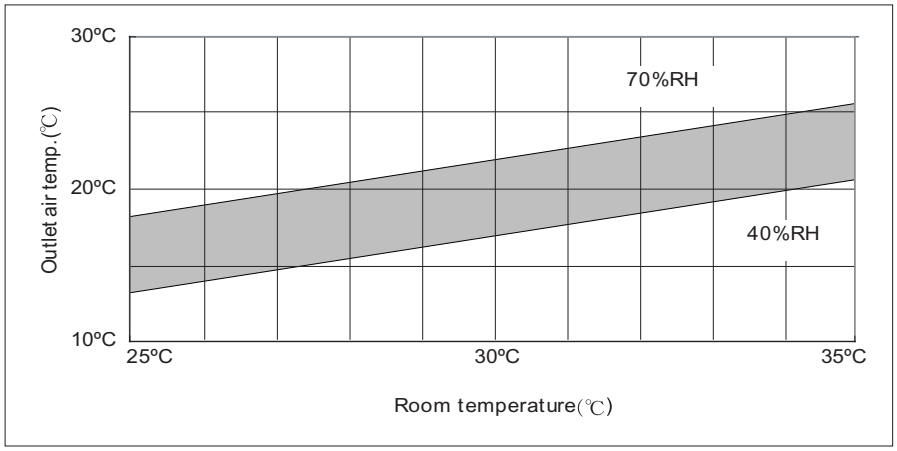
Drain pomp ..... OFF

Exhaust hose ..... Shortest

3) This data will be changed by operation conditions such as: a drain pomp operation or an exhaust hose configuration. Especially, pomp operation will decrease the line current and power input value significantly.







CHAPTER 5. ATTENTION WHEN REPAIRING

[1] HOW TO REPAIR REFRIGERATION

1. Sealed system repair

Sealed system repairs should be properly diagnosed before entering into a repair of the system.

It is important to follow proper procedures when doing a system repair for safety reasons and that the repair will result in a restoration of the system to proper factory standards.

2. Safety reminders

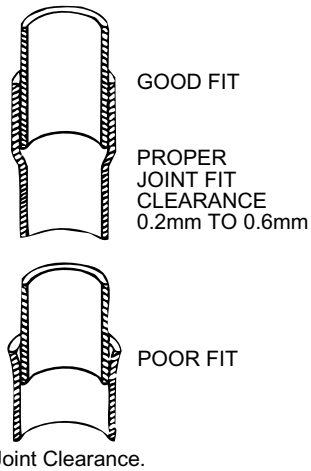
1) Do not heat any system component with an open flame for any reason.
2) Do not solder until you are sure that all refrigerant has been removed from the system.
3) Do not heat the charging cylinder with an open flame. Use warm water only and do not exceed 125ºF (not too hot to keep your hand in.)
4) Do not over till any charging cylinders, as they could explode when over filled.
5) Use proper wrenches.
6) Use safety goggles when working with refrigerants.
7) Keep a fire extinguisher within easy reach.
8) Watch flame direction when soldering so as not to burn clothing, wiring or other components.
9) Solder in a well ventilated area. If a high concentration of freon is present, an open flame will create phosgene gas which can be harmful.

3. Proper soldering

Joint clearances should be maintained so that the brazing alloy will flow between the closely mated surfaces rather than forming large fillets or build of filter metal as in high temperature brazing or welding.

This films make the strongest joints, capillary attraction also work best with close tolerance.

The best clearance is between 0.001" to 0.003", the amount of lap will be approximately 3/8" depending on the swaging tool used.

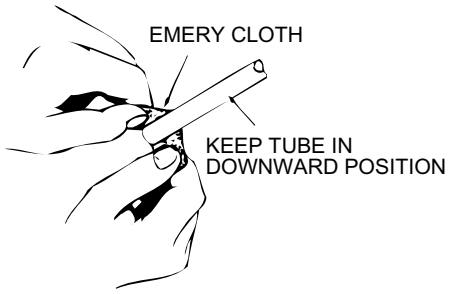


Joint Clearance.

4. Cleaning tubing

To make a sound, leak tight joint, the brazing alloy when raised to brazing temperature, must wet and flow freely over the entire surface of the tubing in the joint area.

To assure this, the tubing surfaces must be free of all dirt, grease, oil and oxides otherwise the alloy will not wet and flow properly over any surface with these elements present. Cleaning can be done with a abrasive cloth or steel wool. Never blow into the tubing because this will introduce a lot of moisture into the system. Open tubing joints should be covered if exposed for long periods of time.



Cleaning Tubing.

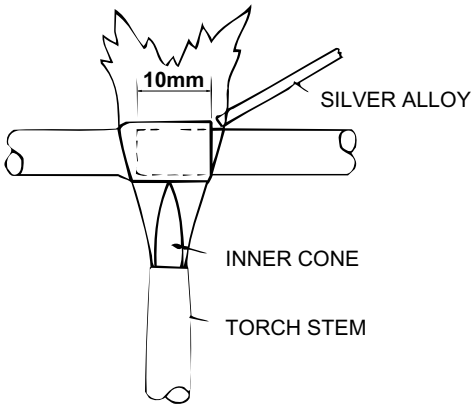
5. Proper fluxing

Flux is necessary when using silver solder; it is not required when using silfos on copper to copper joints.

To do a good job the flux should cover the tube surface completely. Be careful not to introduce any flux inside the tubing.

Fluxing should be done after the tubing is mated together and just before brazing is done. Do not allow it to dry out.

When brazing, the flux should become entirely liquid and clear, like water. The temperature will be at 1100ºF and only a little more heat will allow the alloy to flow freely into the joint.



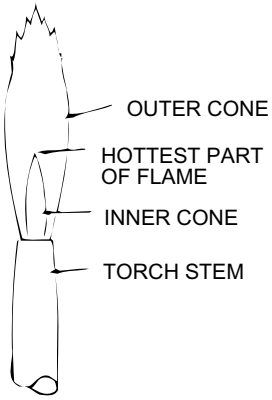
Directing Torch Flame to Copper Tubing.

6. Heating the tubing

Direct the torch flame so that the larger tube receives most of the heat. Silver solder flows at 1200ºF and silfos flows at 1300ºF.

Heat all around the tubing.

The flame is composed of two cones, a smaller inner cone (pale blue) in color and a much larger outer cone. The hottest part of the flame is at the tip of the inner cone. The flame should be directed at the joint with the tip of the cone just touching the surface of the tubing.



Composition of Torch Flame.

7. Dehydrating sealed system

Many servicers feel that since air conditioners run with evaporator temperatures above 33ºF, moisture will not present a problem. Nothing is further from the truth. Oxygen in moisture plus the heat produced during compression will react with the refrigerant oil to produce harmful acids in the system which will break down motor winding insulation, create sludge and pit component parts, reducing efficiency of the air conditioner and shortening the life of compressors.

There it becomes mandatory that good dehydrating practices be adhered to at all time.

Proper hook up procedures as shown in Figure 5 must be used in order to pull and good vacuum from the system.

The use of a good vacuum pump is very important so that the boiling point of any water in the system will be lowered to a point where it will vaporize and be expelled from the system in the form of vapor.

7.1. Type of evacuation methods

1. **Piston Type Compressor** No good.

   System parts must be above 43°C.

2. **Rotary Vacuum Pump** Disavantages.

   Low CFMC. 4 oil gets dirty.

3. **Single State Vacuum Pump** will not clean oil.

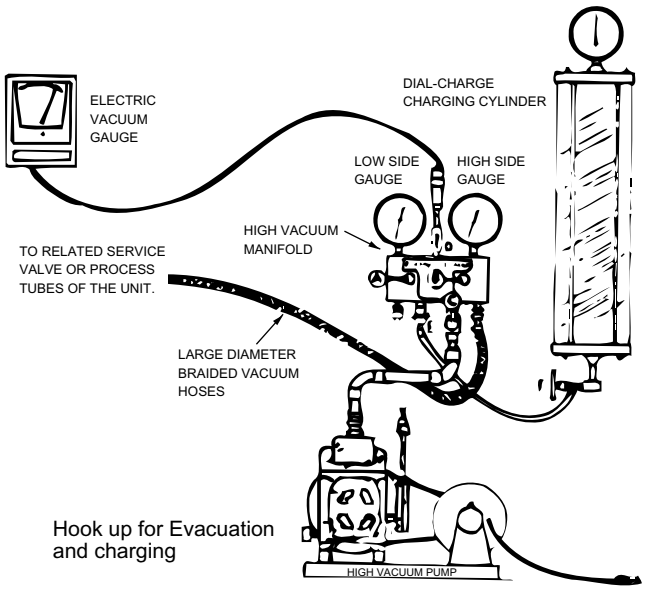
   Oil must be changed often.

4. **2 Stage Vacuum Pump** will reach 50 microns.

   First stage is below atmospheric pressure.

   Moisture is removed into second stage which works up to atmospheric pressure thus keeping oil clean.

   Manometer cannot be read to 1/2 mm. Micron gauge reads from 25,400 microns to 0.


ELECTRIC VACUUM GAUGE
DIAL-CHARGE CHARGING CYLINDER
LOW SIDE GAUGE
HIGH SIDE GAUGE
HIGH VACUUM MANIFOLD
TO RELATED SERVICE VALVE OR PROCESS TUBES OF THE UNIT.
LARGE DIAMETER BRAIDED VACUUM HOSES
HIGH VACUUM PUMP

Hook up for Evacuation and charging

It becomes clear that good equipment and maintained properly must be used in order to remove air and moisture from the system.

When a vacuum of 1,000 to 500 microns is reached, block off the vacuum pump from the system.

This is done by closing the value between the pump and system. If the micron gauge does not increase above 1,000, the system is free of moisture and no leak exists. If the micron gauge increases to higher levels moisture or a leak exists.

8. Leaks

Several methods are used to detect leaks in systems.

- **Electronic Leak Detectors** are very sensitive and are able to detect leaks down to 1/2 ounce per year.

  A good electronic leak detector is generally for better in locating very small leaks.

- **Halide Torch** be sure the room is free from refrigerant vaports. Watch the flame for the slightest change in color.

  A very faint green indicates a small leak. The flame will be unmistakably changed to green or purple when large leaks are encountered. To simplify leak detection pressurize the system to approximately 75 lbs.

  Some leaks can be located by a visual inspection of the system components and points and if oil is found at any given location it generally is a sign that a leak exists at that point due to the fact that flame does carry oil with it travels through the system.

- **Soap Bubbles**

  Liquid detergents can sometimes assist in finding small leaks by brushing detergent on the suspect area and watching for bubbles. Before applying detergent be sure that the system is pressurized.

Tap line devices are permissible for diagnosis only they are not suitable when evacuating the system. After the diagnosis has been made they must be removed so that the system will be restored to a hermeticly sealed condition.

[2] ELECTRICAL COMPONENT TEST

RUNNING CAPACITOR AND FAN CAPACITOR

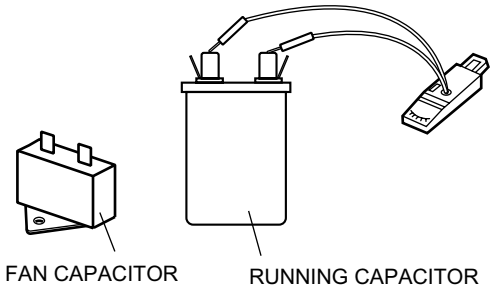
NOTE: DISCHARGE THE RUNNING CAPACITOR AND FAN CAPACITOR BEFORE TOUCHING CAPACITOR OR WIRING.

1) Discharge capacitor by shorting terminals.
2) Take the wires off the capacitor terminals.
3) Set the selector switch of a volt-ohm-meter (or a tester) on the resistance range.
4) Connect the probes to the capacitor terminals and watch the indicator swing.

   The indicator does not swing at all ..... Open.

   The indicator swings but does not return ..... Shorted.

   The indicator swings, then returns a moment later ..... Good.



1. Insulation test

Check the resistance between the terminals and case.

Reading must be more than 10MΩ at DC 500V.

2. Overload relay

Check continuity between terminals with volt-ohm-meter.

3. Insulation test

Check resistance between terminals and the relay case.

Reading must be more than 10MΩ at DC 500V.

4. Compressor

1) Take the wires off compressor terminals.
2) Set selector switch of volt-ohm-meter on the resistance range.
3) Put the probes on the terminals of the compressor and check continuity between each terminal.

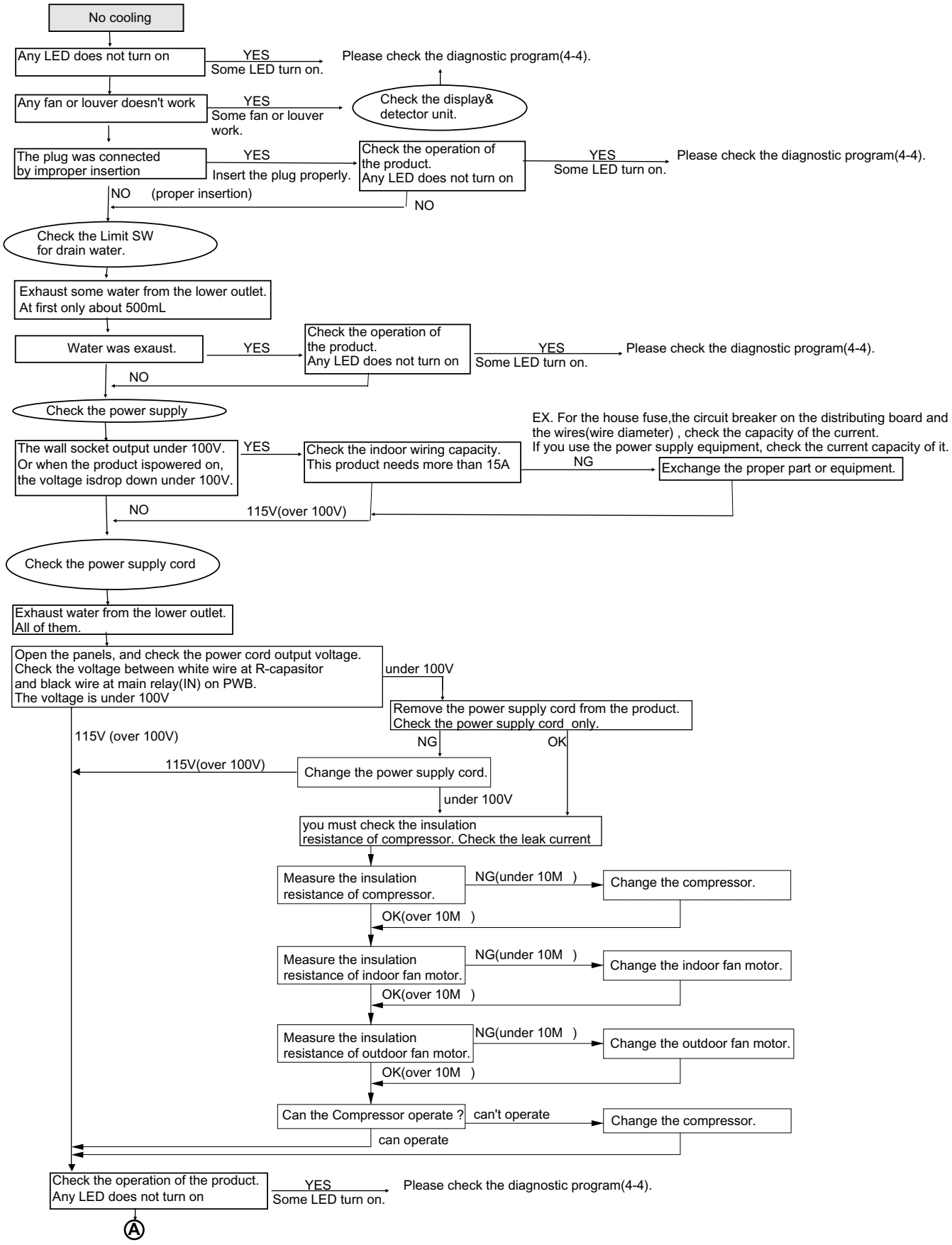
5. Insulation test

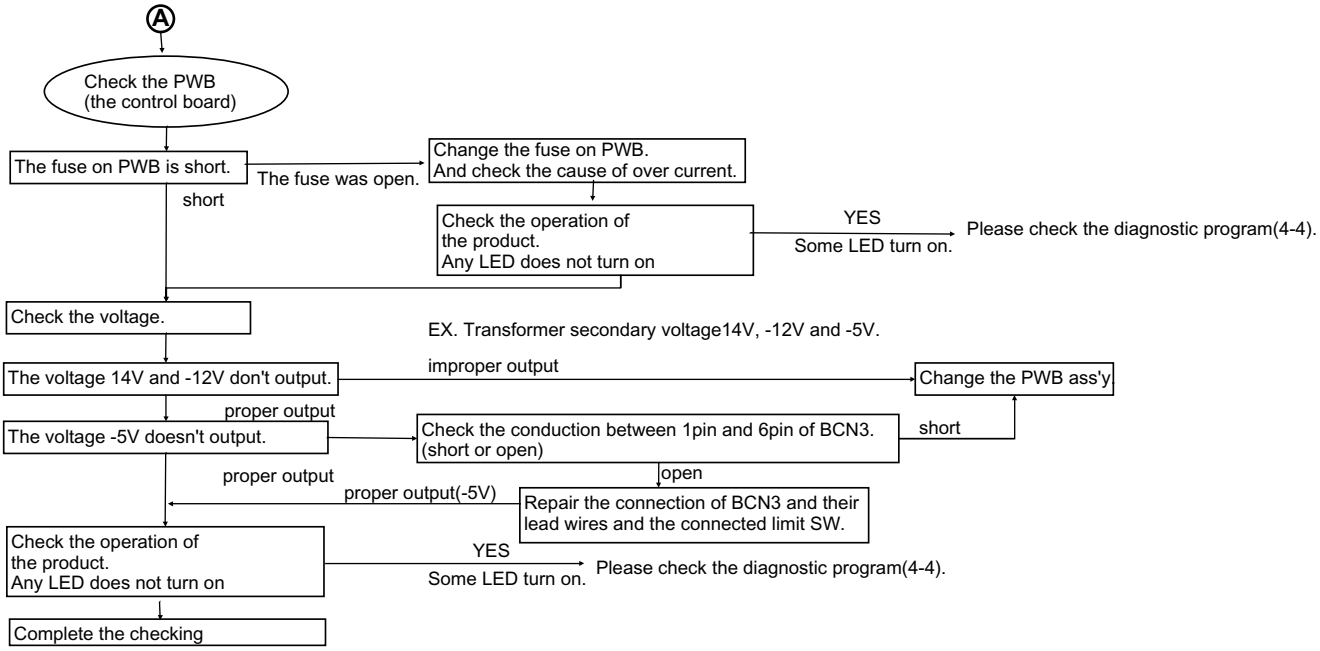
Check the resistance between the terminals and the copper tube.

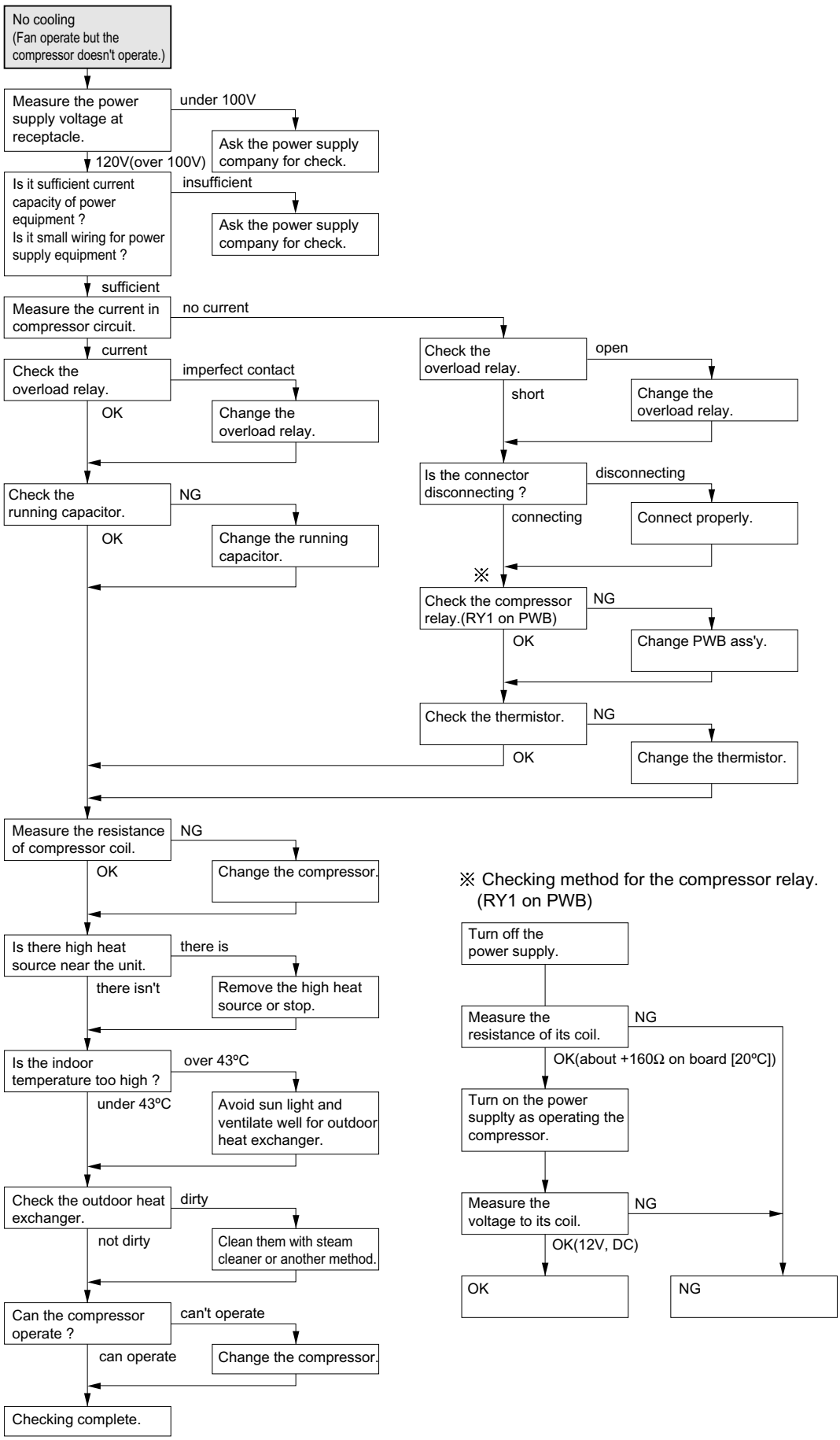
Reading must be more than 10MΩ at DC 500V.

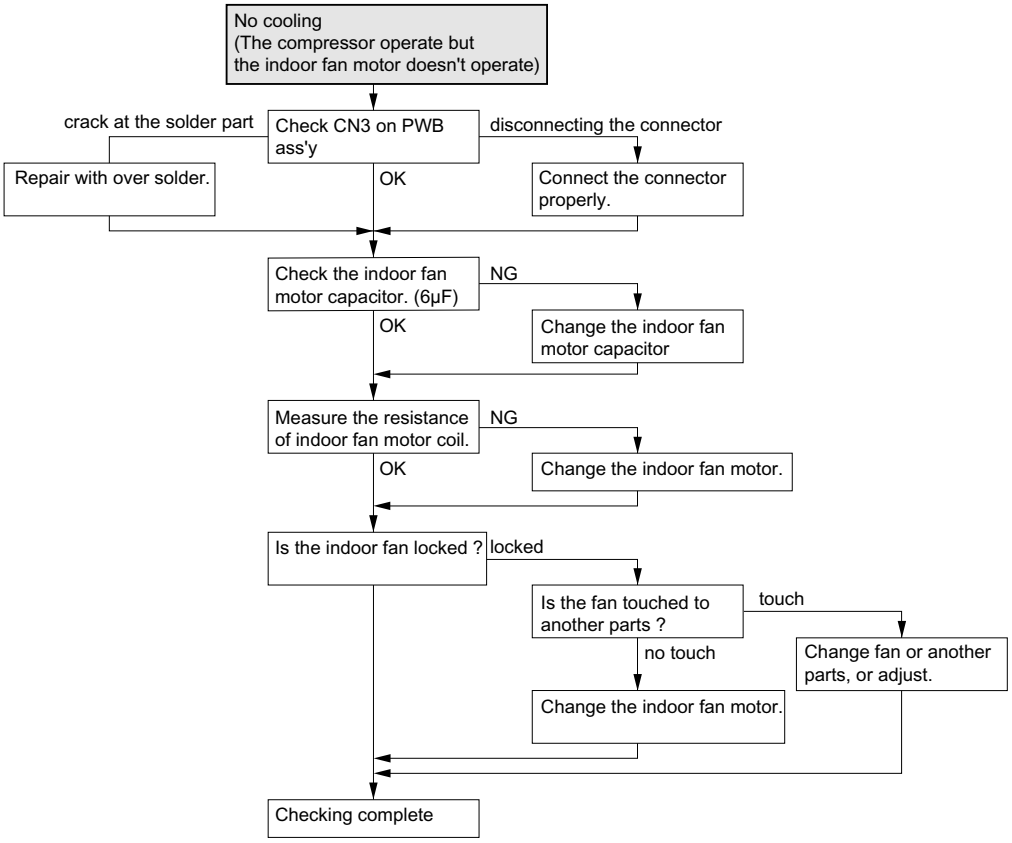
CHAPTER 6. TROUBLESHOOTING GUIDE

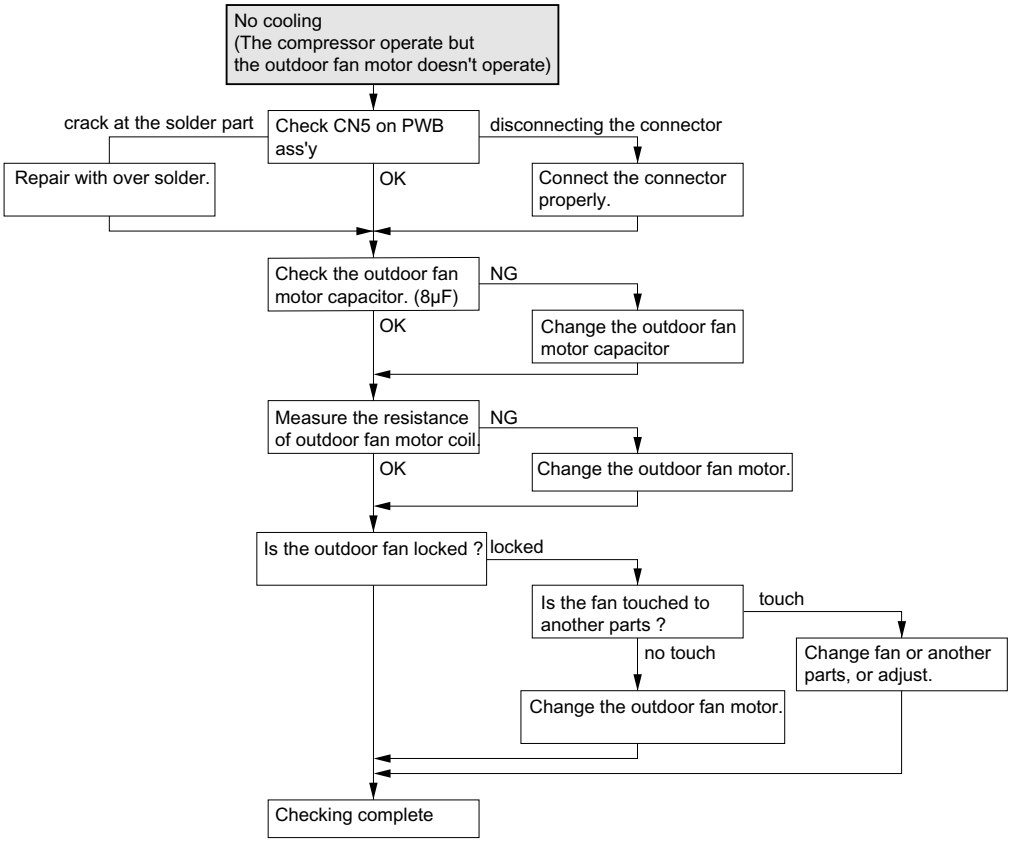
[1] TROUBLESHOOTING

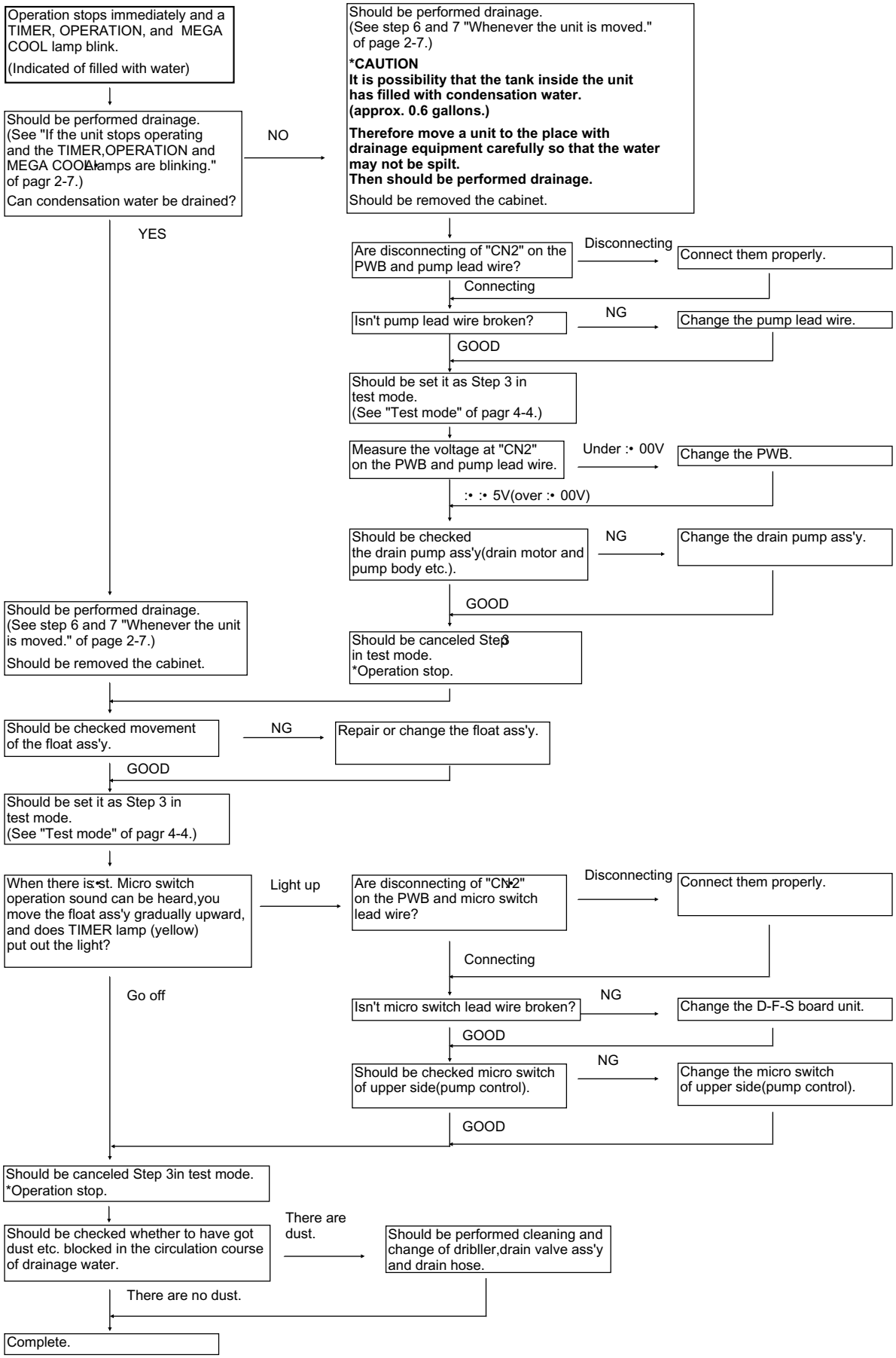

No cooling
Any LED does not turn on
YES
Some LED turn on.
Please check the diagnostic program(4-4).
Any fan or louver doesn't work
YES
Some fan or louver work.
Check the display& detector unit.
The plug was connected by improper insertion
YES
Insert the plug properly.
Check the operation of the product. Any LED does not turn on
YES
Some LED turn on.
Please check the diagnostic program(4-4).
NO
(proper insertion)
NO
Check the Limit SW for drain water.
Exhaust some water from the lower outlet. At first only about 500mL
Water was exaust.
YES
Check the operation of the product. Any LED does not turn on
YES
Some LED turn on.
Please check the diagnostic program(4-4).
NO
Check the power supply
EX. For the house fuse,the circuit breaker on the distributing board and the wires(wire diameter) , check the capacity of the current.
If you use the power supply equipment, check the current capacity of it.
The wall socket output under 100V. Or when the product ispowered on, the voltage isdrop down under 100V.
YES
Check the indoor wiring capacity. This product needs more than 15A
NG
Exchange the proper part or equipment.
NO
115V(over 100V)
Check the power supply cord
Exhaust water from the lower outlet. All of them.
Open the panels, and check the power cord output voltage. Check the voltage between white wire at R-capasitor and black wire at main relay(IN) on PWB. The voltage is under 100V
under 100V
Remove the power supply cord from the product. Check the power supply cord only.
115V (over 100V)
NG
OK
115V(over 100V)
Change the power supply cord.
under 100V
you must check the insulation resistance of compressor. Check the leak current
Measure the insulation resistance of compressor.
NG(under 10M)
Change the compressor.
OK(over 10M)
Measure the insulation resistance of indoor fan motor.
NG(under 10M)
Change the indoor fan motor.
OK(over 10M)
Measure the insulation resistance of outdoor fan motor.
NG(under 10M)
Change the outdoor fan motor.
OK(over 10M)
Can the Compressor operate ?
can't operate
Change the compressor.
can operate
Check the operation of the product. Any LED does not turn on
YES
Some LED turn on.
Please check the diagnostic program(4-4).
A

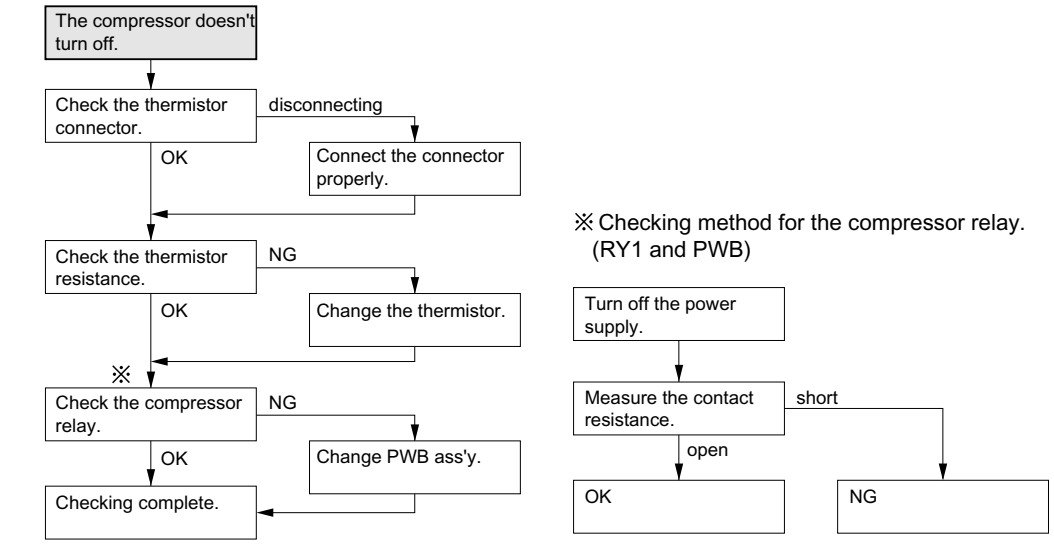

Ⓐ
Check the PWB
(the control board)
The fuse on PWB is short.
The fuse was open.
Change the fuse on PWB.
And check the cause of over current.
short
Check the operation of
the product.
Any LED does not turn on
YES
Some LED turn on.
Please check the diagnostic program(4-4).
Check the voltage.
EX. Transformer secondary voltage14V, -12V and -5V.
The voltage 14V and -12V don't output.
improper output
Change the PWB ass'y
proper output
The voltage -5V doesn't output.
Check the conduction between 1pin and 6pin of BCN3.
(short or open)
short
open
proper output
proper output(-5V)
Repair the connection of BCN3 and their
lead wires and the connected limit SW.
Check the operation of
the product.
Any LED does not turn on
YES
Some LED turn on.
Please check the diagnostic program(4-4).
Complete the checking

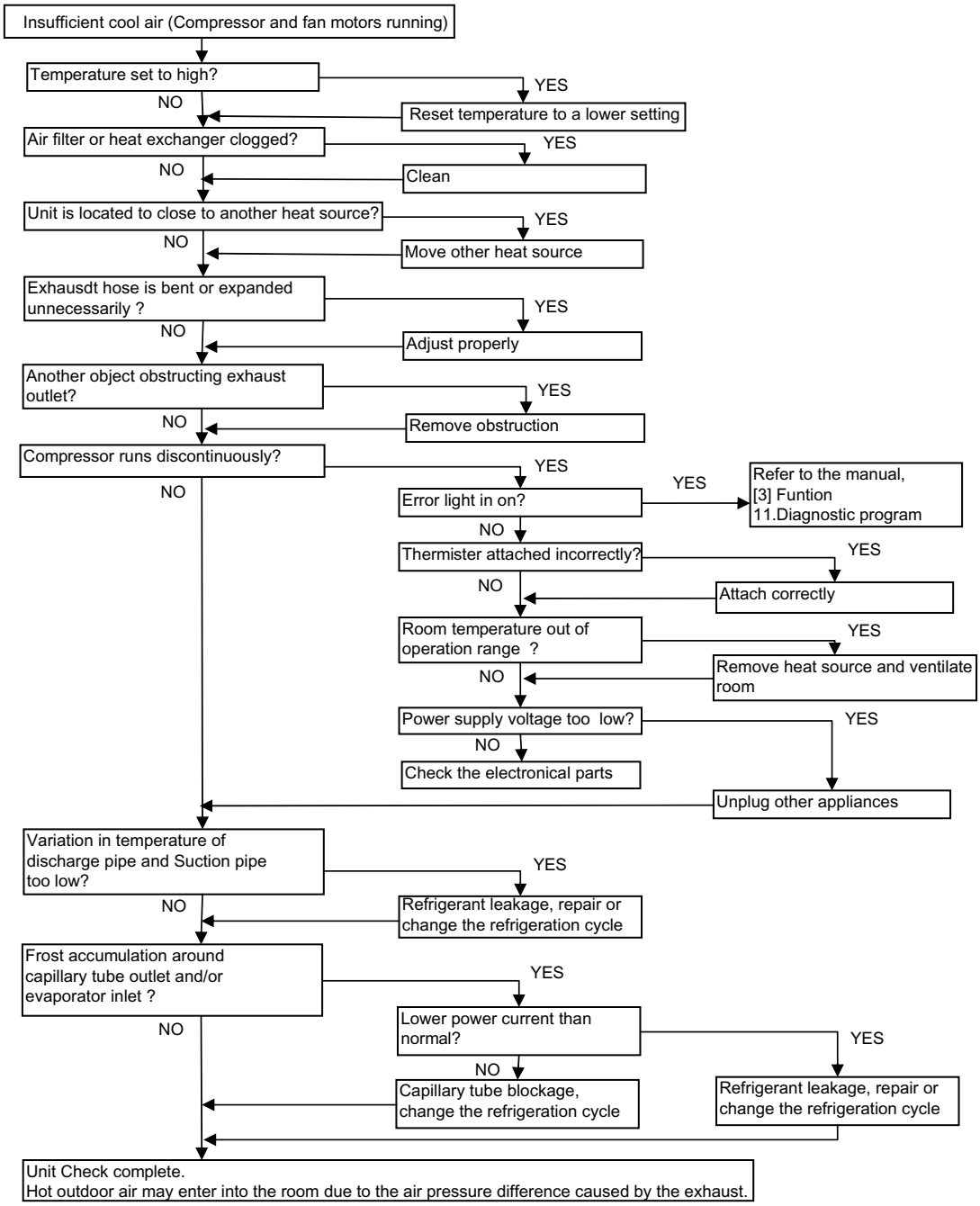

No cooling
(Fan operate but the compressor doesn't operate.)
Measure the power supply voltage at receptacle.
under 100V
Ask the power supply company for check.
120V(over 100V)
Is it sufficient current capacity of power equipment ?
Is it small wiring for power supply equipment ?
insufficient
Ask the power supply company for check.
sufficient
Measure the current in compressor circuit.
no current
current
Check the overload relay.
imperfect contact
Change the overload relay.
OK
Check the running capacitor.
NG
Change the running capacitor.
OK
Check the overload relay.
open
Change the overload relay.
short
Is the connector disconnecting ?
disconnecting
Connect properly.
connecting
※
Check the compressor relay.(RY1 on PWB)
NG
Change PWB ass'y.
OK
Check the thermistor.
NG
Change the thermistor.
OK
Measure the resistance of compressor coil.
NG
Change the compressor.
OK
Is there high heat source near the unit.
there is
Remove the high heat source or stop.
there isn't
Is the indoor temperature too high ?
over 43ºC
Avoid sun light and ventilate well for outdoor heat exchanger.
under 43ºC
Check the outdoor heat exchanger.
dirty
Clean them with steam cleaner or another method.
not dirty
Can the compressor operate ?
can't operate
Change the compressor.
can operate
Checking complete.
※ Checking method for the compressor relay. (RY1 on PWB)
Turn off the power supply.
Measure the resistance of its coil.
NG
OK(about +160Ω on board [20ºC])
Turn on the power supplty as operating the compressor.
Measure the voltage to its coil.
NG
OK(12V, DC)
OK
NG

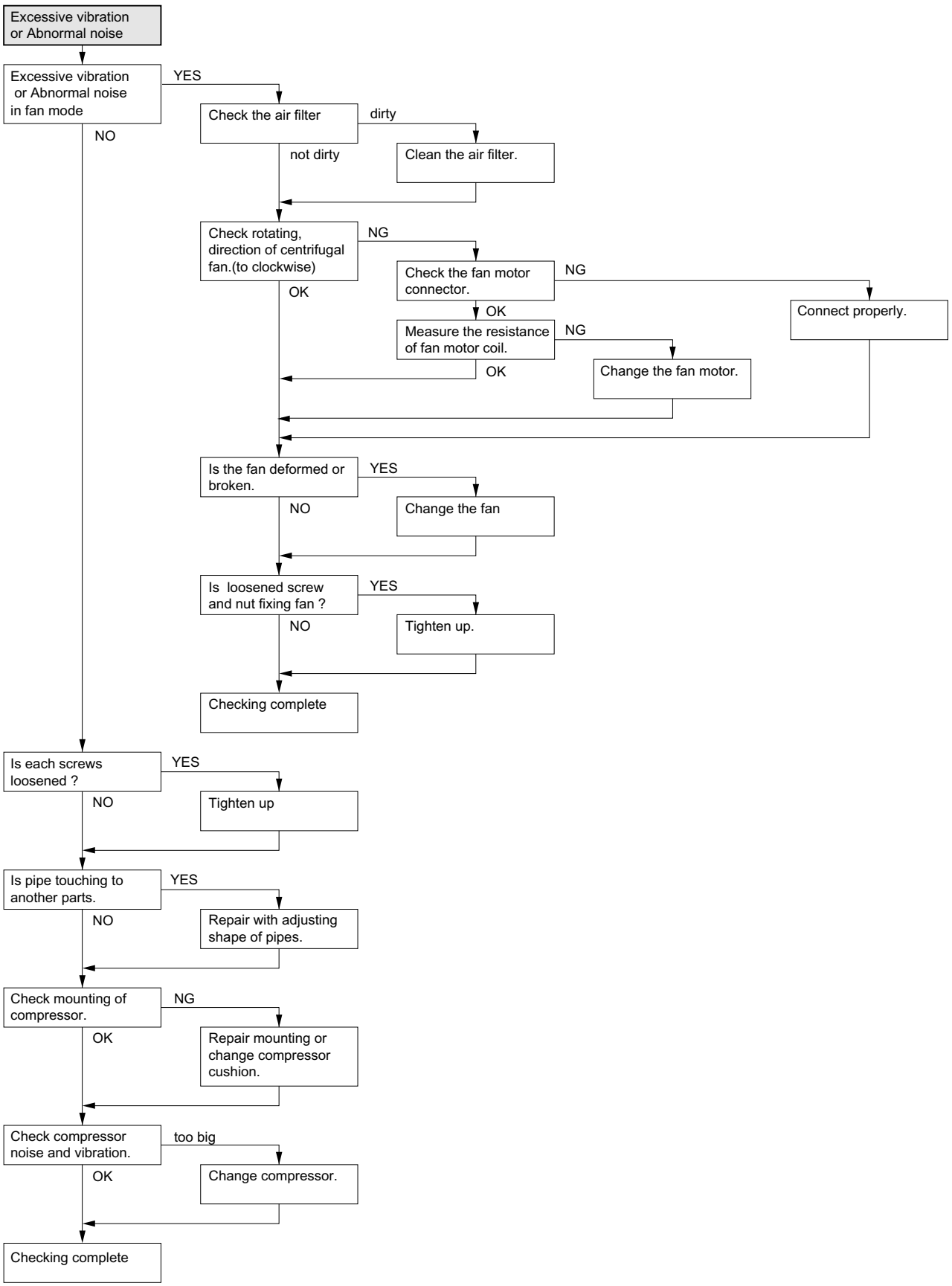

No cooling
(The compressor operate but
the indoor fan motor doesn't operate)
crack at the solder part
Check CN3 on PWB
ass'y
disconnecting the connector
Repair with over solder.
OK
Connect the connector
properly.
Check the indoor fan
motor capacitor. (6µF)
NG
OK
Change the indoor fan
motor capacitor
Measure the resistance
of indoor fan motor coil.
NG
OK
Change the indoor fan motor.
Is the indoor fan locked ?
locked
Is the fan touched to
another parts ?
touch
no touch
Change fan or another
parts, or adjust.
Change the indoor fan motor.
Checking complete


No cooling
(The compressor operate but
the outdoor fan motor doesn't operate)
crack at the solder part
Check CN5 on PWB
ass'y
disconnecting the connector
Repair with over solder.
OK
Connect the connector
properly.
Check the outdoor fan
motor capacitor. (8µF)
NG
OK
Change the outdoor fan
motor capacitor
Measure the resistance
of outdoor fan motor coil.
NG
OK
Change the outdoor fan motor.
Is the outdoor fan locked ?
locked
Is the fan touched to
another parts ?
touch
no touch
Change fan or another
parts, or adjust.
Change the outdoor fan motor.
Checking complete


Operation stops immediately and a TIMER, OPERATION, and MEGA COOL lamp blink.
(Indicated of filled with water)
Should be performed drainage. (See "If the unit stops operating and the TIMER,OPERATION and MEGA COOL lamps are blinking." of pagr 2-7.)
Can condensation water be drained?
NO
YES
Should be performed drainage. (See step 6 and 7 "Whenever the unit is moved." of page 2-7.)
*CAUTION
It is possibility that the tank inside the unit has filled with condensation water. (approx. 0.6 gallons.)
Therefore move a unit to the place with drainage equipment carefully so that the water may not be spilt.
Then should be performed drainage.
Should be removed the cabinet.
Are disconnecting of "CN2" on the PWB and pump lead wire?
Disconnecting
Connect them properly.
Connecting
Isn't pump lead wire broken?
NG
Change the pump lead wire.
GOOD
Should be set it as Step 3 in test mode. (See "Test mode" of pagr 4-4.)
Measure the voltage at "CN2" on the PWB and pump lead wire.
Under :• 00V
Change the PWB.
:• :• 5V(over :• 00V)
Should be checked the drain pump ass'y(drain motor and pump body etc.).
NG
Change the drain pump ass'y.
GOOD
Should be canceled Step3 in test mode.
*Operation stop.
Should be performed drainage. (See step 6 and 7 "Whenever the unit is moved." of page 2-7.)
Should be removed the cabinet.
Should be checked movement of the float ass'y.
NG
Repair or change the float ass'y.
GOOD
Should be set it as Step 3 in test mode. (See "Test mode" of pagr 4-4.)
When there is st. Micro switch operation sound can be heard,you move the float ass'y gradually upward, and does TIMER lamp (yellow) put out the light?
Light up
Are disconnecting of "CN2" on the PWB and micro switch lead wire?
Disconnecting
Connect them properly.
Connecting
Go off
Isn't micro switch lead wire broken?
NG
Change the D-F-S board unit.
GOOD
Should be checked micro switch of upper side(pump control).
NG
Change the micro switch of upper side(pump control).
GOOD
Should be canceled Step 3in test mode.
*Operation stop.
Should be checked whether to have got dust etc. blocked in the circulation course of drainage water.
There are dust.
Should be performed cleaning and change of dribller,drain valve ass'y and drain hose.
There are no dust.
Complete.


The compressor doesn't turn off.
Check the thermistor connector.
disconnecting
Connect the connector properly.
OK
Check the thermistor resistance.
NG
Change the thermistor.
OK
※
Check the compressor relay.
NG
Change PWB ass'y.
OK
Checking complete.
※ Checking method for the compressor relay. (RY1 and PWB)
Turn off the power supply.
Measure the contact resistance.
short
open
OK
NG

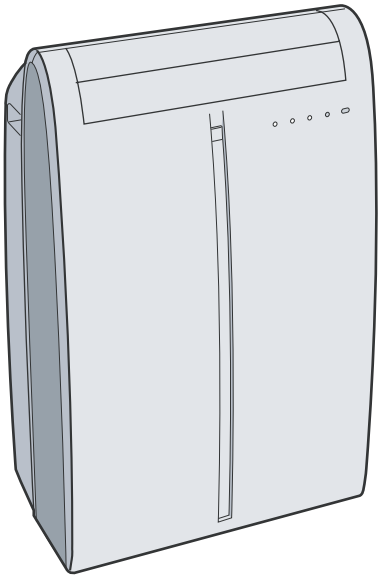

Insufficient cool air (Compressor and fan motors running)
Temperature set to high?
YES
Reset temperature to a lower setting
NO
Air filter or heat exchanger clogged?
YES
Clean
NO
Unit is located to close to another heat source?
YES
Move other heat source
NO
Exhausdt hose is bent or expanded unnecessarily ?
YES
Adjust properly
NO
Another object obstructing exhaust outlet?
YES
Remove obstruction
NO
Compressor runs discontinuously?
YES
Error light in on?
YES
Refer to the manual, [3] Funtion 11.Diagnostic program
NO
Thermister attached incorrectly?
YES
Attach correctly
NO
Room temperature out of operation range ?
YES
Remove heat source and ventilate room
NO
Power supply voltage too low?
YES
NO
Check the electronical parts
Unplug other appliances
NO
Variation in temperature of discharge pipe and Suction pipe too low?
YES
Refrigerant leakage, repair or change the refrigeration cycle
NO
Frost accumulation around capillary tube outlet and/or evaporator inlet ?
YES
Lower power current than normal?
YES
NO
Capillary tube blockage, change the refrigeration cycle
Refrigerant leakage, repair or change the refrigeration cycle
NO
Unit Check complete.
Hot outdoor air may enter into the room due to the air pressure difference caused by the exhaust.


Excessive vibration or Abnormal noise
Excessive vibration or Abnormal noise in fan mode
YES
NO
Check the air filter
dirty
not dirty
Clean the air filter.
Check rotating, direction of centrifugal fan.(to clockwise)
NG
OK
Check the fan motor connector.
NG
OK
Connect properly.
Measure the resistance of fan motor coil.
NG
OK
Change the fan motor.
Is the fan deformed or broken.
YES
NO
Change the fan
Is loosened screw and nut fixing fan ?
YES
NO
Tighten up.
Checking complete
Is each screws loosened ?
YES
NO
Tighten up
Is pipe touching to another parts.
YES
NO
Repair with adjusting shape of pipes.
Check mounting of compressor.
NG
OK
Repair mounting or change compressor cushion.
Check compressor noise and vibration.
too big
OK
Change compressor.
Checking complete

REPLACEMENT PARTS LIST

PORTABLE AIR CONDITIONER

MODEL CV-P09FR



CONTENTS

[1] OUTSIDE PARTS

[2] INSIDE PARTS

[3] CONTROL BOX PARTS

[4] CYCLE PARTS

[5] ACCESSORY PARTS

[6] PACKING PARTS

■ INDEX

Parts marked with "⚠" are important for maintaining the safety of the set. Be sure to replace these parts with specified ones for

SHARP CORPORATION

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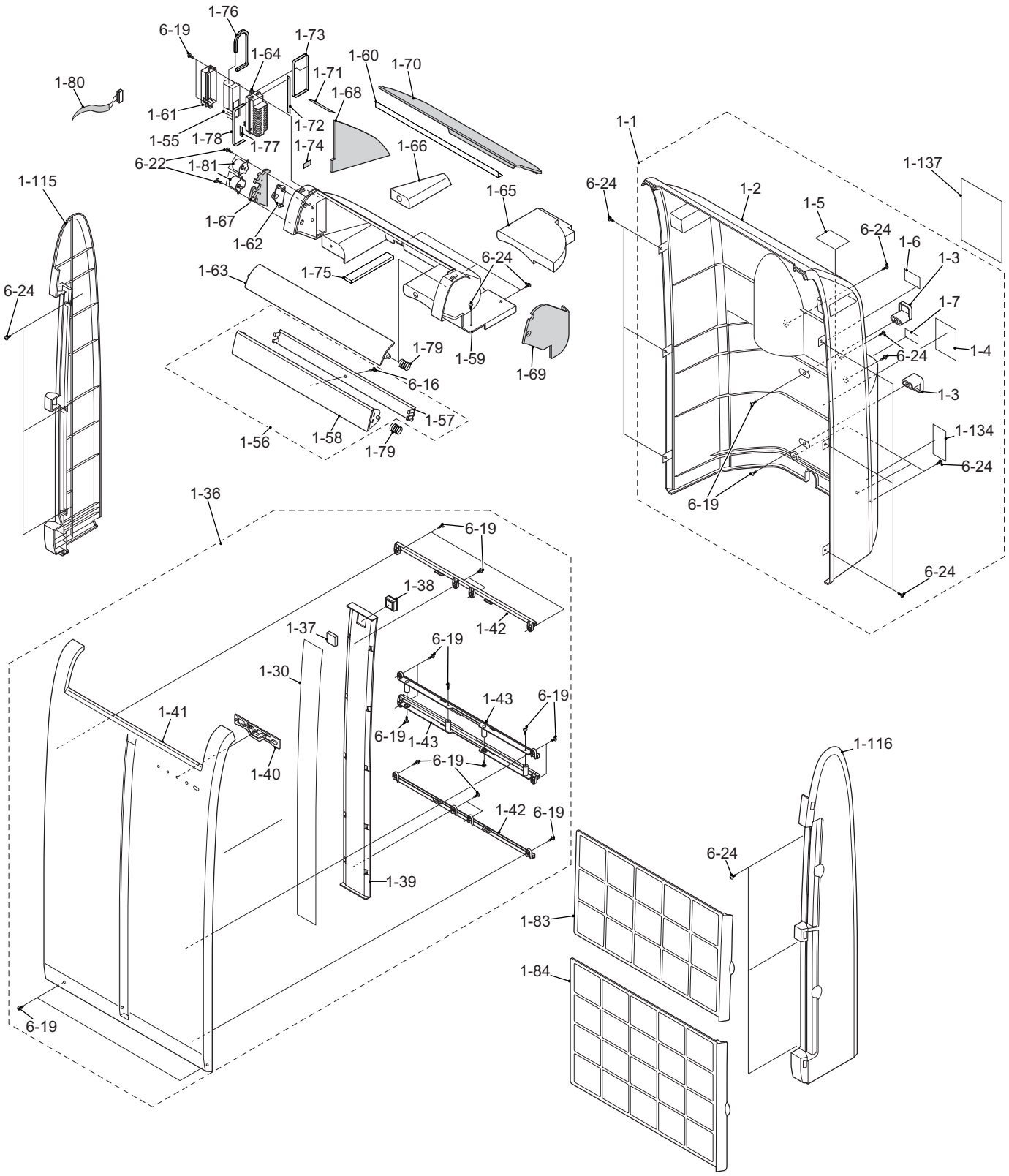
The contents are subject to change without notice.

CVP09FR

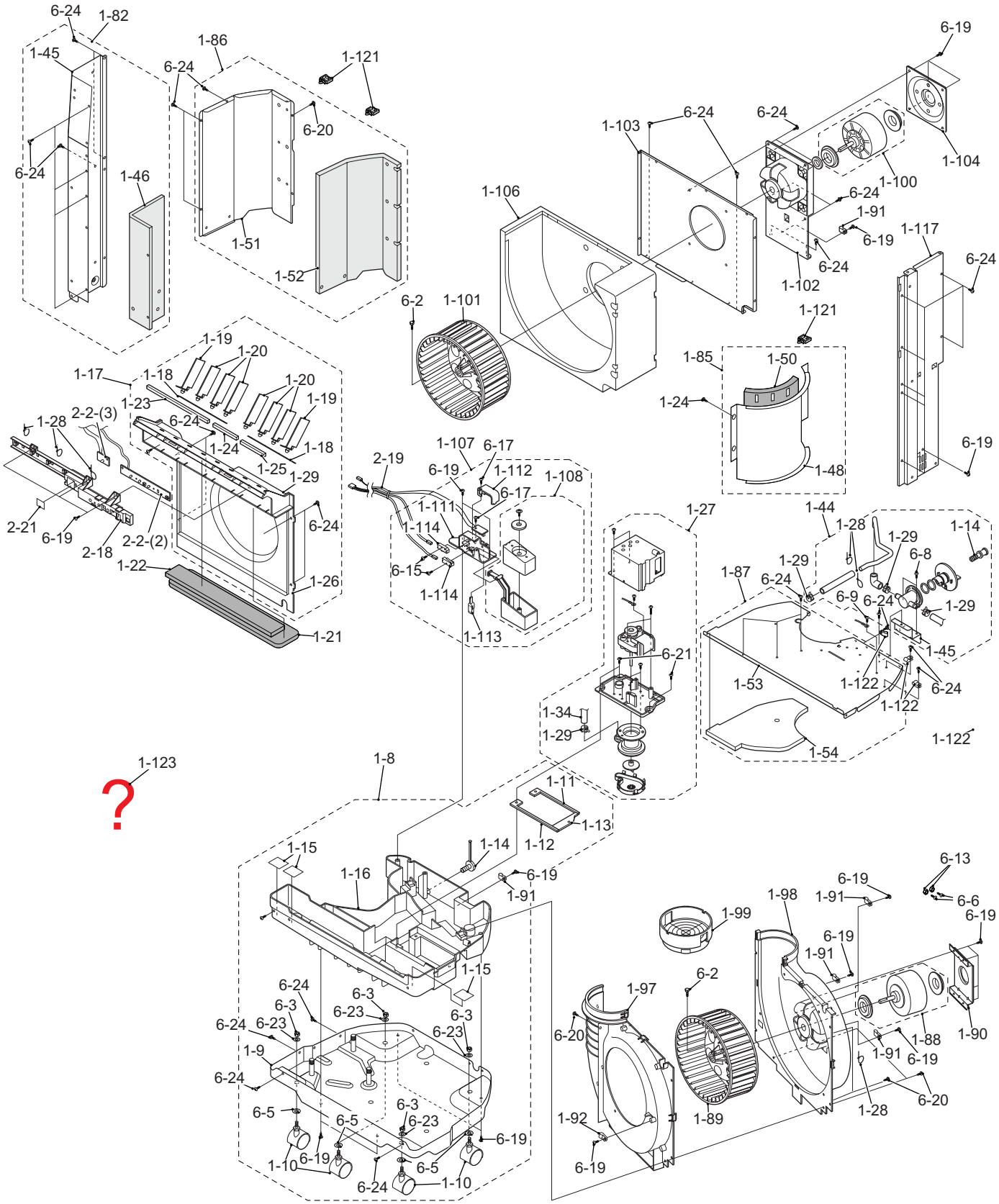
[1] OUTSIDE PARTS



NO.	PARTS CODE	PRICE RANK	NEW MARK	PART RANK	DESCRIPTION
[1] OUTSIDE PARTS					
CABINET AND UNIT PARTS					
1-1	CCAB-A395JBKZ	BH			Cabinet ass'y
1-2	GCAB-A292JBFB	BQ			Cabinet
1-3	LHLD-A735JBFB	AD			Cord holder
1-4	TLAB-C748JBRZ				Caution label
1-5	TLAB-C804JBRZ				Caution label
1-6	TLAB-C805JBRZ				Label
1-7	TLAB-C806JBRZ				Label
1-30	HDEC-B196JBEZ	AQ			Display panel
1-36	CPNL-A530JBKZ	BD			Front panel ass'y
1-37	HBDG-A002KKEA	AE			AI badge
1-38	HDEC-B192JBFA	AF			Cluster display
1-39	HPNL-A726JBFB	AW			Center panel
1-40	HPNL-A727JBFA	AZ			Display panel
1-41	HPNL-A746JBRB				Front panel
1-42	PGID-A124JBFB	AF			Filter guide a
1-43	PGID-A125JBFB	AF			Filter guide b
1-55	CKITTA071AKKZ	BD			Plasmacluster unit
1-56	DLOV-A014JBKZ	AZ			H louver ass'y
1-57	MLOV-A427JBTA	AU			Horizontal louver c
1-58	MLOV-A428JBTA	AU			Horizontal louver b
1-59	GWAKPA173JBFA	BC			Top duct
1-60	LANG-A623JBPZ	AG			Top angle
1-61	LHLD-A737JBFA	AZ			Cluster holder
1-62	LSTP-A027JBFA	AM			Stopper
1-63	MLOV-A425JBTA	AU			Horizontal louver a
1-64	PCOV-B108JBFA	AZ			Cluster cover
1-65	PFPFPC769JBFZ	AF			Insulator a
1-66	PFPFPC770JBFZ	AF			Insulator b
1-67	PFPFPC771JBEZ	AF			Insulator c
1-68	PFPFPC772JBEZ	AF			Insulator d
1-69	PFPFPC773JBEZ	AF			Insulator e
1-70	PFPFPC774JBEZ	AF			Insulator f
1-71	PFPFPC775JBEZ	AF			Insulator g
1-72	PFPFPC830JBEZ	AC			Cl.cover insulator b
1-73	PFPFPC831JBEZ	AC			Cl.cover insulator d
1-74	PFPFPC832JBEZ	AC			Insulator h
1-75	PFPFPC862JBEZ	AC			Insulator i
1-76	PSEL-C876JBEZ	AC			Cluster insulator
1-77	PSEL-C877JBEZ	AC			Cl.cover insulator a
1-78	PSEL-C879JBEZ	AC			Cl.cover insulator c
1-79	PSPRCA010JBE0	AD			Spring
1-80	QW-VZE971JBZZ	AL			Lead wire
1-81	RMOT-A061JBE0	AS			Louver motor
1-83	DFILMA001JBEB	AM			Ply filter a
1-84	DFILMA002JBEB	AM			Ply filter b
1-115	HPNL-A728JBFB	AW			Side panel l
1-116	HPNL-A729JBFB	AW			Side panel r
1-134	TSPC-F091JBRZ				Name badge
1-137	TLAB-C823JBRZ				Caution label
SCREWS AND NUTS					
6-16	XTPS730P10000	AC			Tapping screw
6-19	XTTS740P12000	AC			Tapping screw
6-22	XUPS740P08000	AC			
6-24	XTTS740P10000	AC			Tapping screw

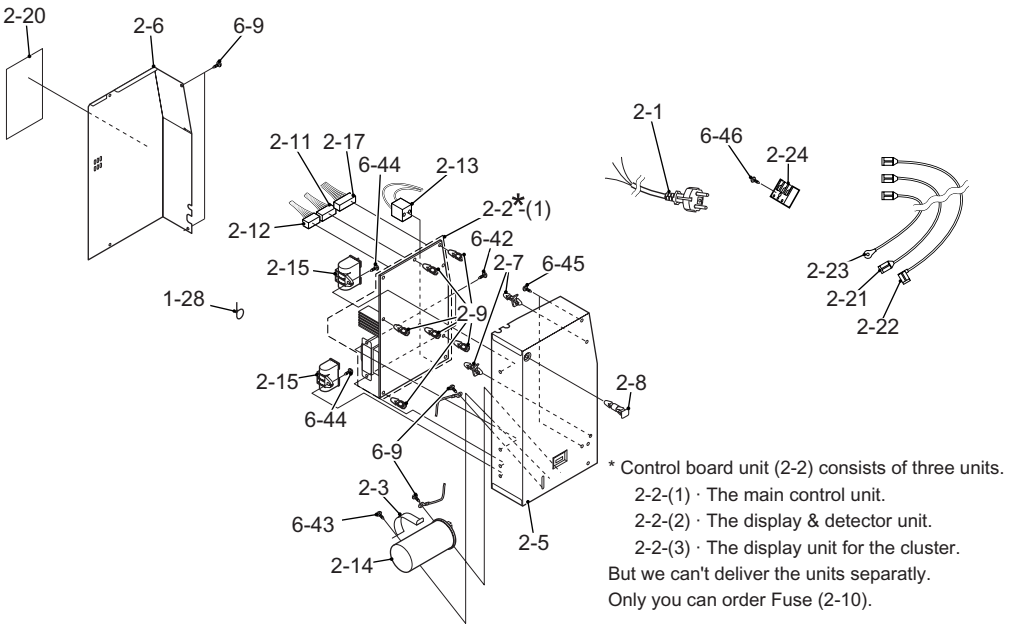
CVP09FR

[2] INSIDE PARTS



NO.	PARTS CODE	PRICE RANK	NEW MARK	PART RANK	DESCRIPTION
[2] INSIDE PARTS					
CABINET AND UNIT PARTS					
1-8	CCHS-A914JBKZ	AZ			Base pan ass'y
1-9	DCHS-A536JBTA	BB			Base pan ass'y
1-10	NKOM-A001JBEZ	AG			Caster
1-11	PGUM-A164JBEZ	AE			Motor cushion
1-12	PGUM-A165JBEZ	AE			Motor cushion b
1-13	PGUM-A166JBEZ	AE			Motor cushion c
1-14	PGUMMA346JBEZ	AE			Drain plug
1-15	PSEL-C875JBEZ	AC			Insulator
1-16	PSRA-A172JBFA	AX			Drain tray
1-17	CKES-A162JBKZ	AT			Orifice ass'y
1-18	MJNT-A023JBFA	AF			Louver link
1-19	MLOV-A409JBFA	AF			Vertical louver a
1-20	MLOV-A410JBFA	AF			Vertical louver b
1-21	PFPFPC765JBEZ	AE			Evaporator insulator
1-22	PFPFPC826JBEZ	AC			Orifice insulator a
1-23	PFPFPC827JBEZ	AC			Orifice insulator b
1-24	PFPFPC828JBEZ	AC			Orifice insulator c
1-25	PFPFPC829JBEZ	AC			Orifice insulator d
1-26	PKESSA090JBFA	AX			Orifice
1-27	CPMP-A006JBKZ	AN			Drain pump ass'y
1-28	LBND-A042JBE0	AC			Wire fixing band
1-29	LBNDKA132JBEZ	AE			Band
1-34	PHOS-A045JBEZ	AM			Drain hose a
1-44	CVLV-A755JBKZ	BE			Drain valve ass'y
1-45	LANG-A615JBWZ	AK			Stay angle l
1-46	PCOV-B109JBEZ	AG			Cover f
1-48	LPLTMA210JBWZ	AQ			Bulkhead r
1-50	PCOV-B110JBEZ	AH			Cover r
1-51	LPLTMA211JBWZ	AQ			Bulkhead l
1-52	PCOV-B111JBEZ	AK			Cover
1-53	LPLTMA207JBWZ	AL			Half plate
1-54	PCOV-B153JBEZ	AG			Cover t
1-82	DANG-A048JBKZ	AZ			Stay angle l ass'y
1-85	DPLT-A070JBKZ	AU			Bulkhead r ass'y
1-86	DPLT-A071JBKZ	AW			Bulkhead l ass'y
1-87	DPLT-A072JBKZ	AW			Half plate ass'y
1-88	CMOT-A447JBKZ	BM			Fan motor sub ass'y
1-89	NFANSA045JBFZ	AX			Centrifugal fan-out
1-90	LANG-A617JBWZ				Motor cover
1-91	LHLDW0364JBE0	AA			Wire holder
1-92	LHLDW0370JBE0	AA			Wire holder
1-97	PKESSA092JBFA	AX			Out casing a
1-98	PKESSA093JBFA	AX			Out casing b
1-99	PKESSA094JBFB	AX			Out casing c
1-100	CMOT-A446JBKZ	BH			Fan motor sub ass'y
1-101	NFANSA046JBFZ	AX			Centrifugal fan-in
1-102	LANG-A606JBFZ	AM			Fan motor angle
1-103	LANG-A614JBPZ	AK			Casing cover
1-104	LANG-A618JBPZ	AK			Motor cover in
1-106	PKESSA091JBFZ	AX			In casing
1-107	DSW-MA004JBKZ	AM			Float switch ass'y
1-108	CFLO-A001JBKZ	AK			Float ass'y
1-111	LHLD-A739JBFA	AZ			Sw stay
1-112	PCOV-B112JBFZ	AF			Sw cover
1-113	PFLO-A006JBFZ	AE			Float c
1-114	QSW-MA009JBZZ	AL			Micro switch
1-117	LANG-A613JBWZ				Stay angle r
1-121	LHLDWA042JBEZ	AE			Wire h0lder
1-122	LHLDW0366JBE0	AA			Wire holder
1-123	LHLDW0368JBE0	AA			Wire holder
CONTROL BOX PARTS					
2-18	PCOV-B105JBFZ	AG			Led guide
2-19	DPWBFA431JBKZ	AS			D-f-s board unit
2-21	PSHE-A230JBEZ				Sheet
SCREWS AND NUTS					
6-2	LX-BZA360JBEZ	AF			Special screw
6-3	LX-NZA316JBEZ	AF			Special nut
6-5	LX-WZA048JBEZ	AD			Washer
6-6	XBPS730P08J00	AB			Machine screw
6-8	XCTS740P10000	AC			Tapping screw
6-9	XHTS740P08000	AC			Tap tight screw
6-13	XNES730-24000				
6-15	XTPS723P14000	AC			Tapping screw
6-17	XTPS740P12000	AC			Tapping screw
6-19	XTTS740P12000	AC			Tapping screw
6-20	XTTS740P14000	AC			Tapping screw
6-21	XTTS740P16000	AC			Tapping screw
6-23	XWSS700-25000	AC			Spring washer
6-24	XTTS740P10000	AC			Tapping screw

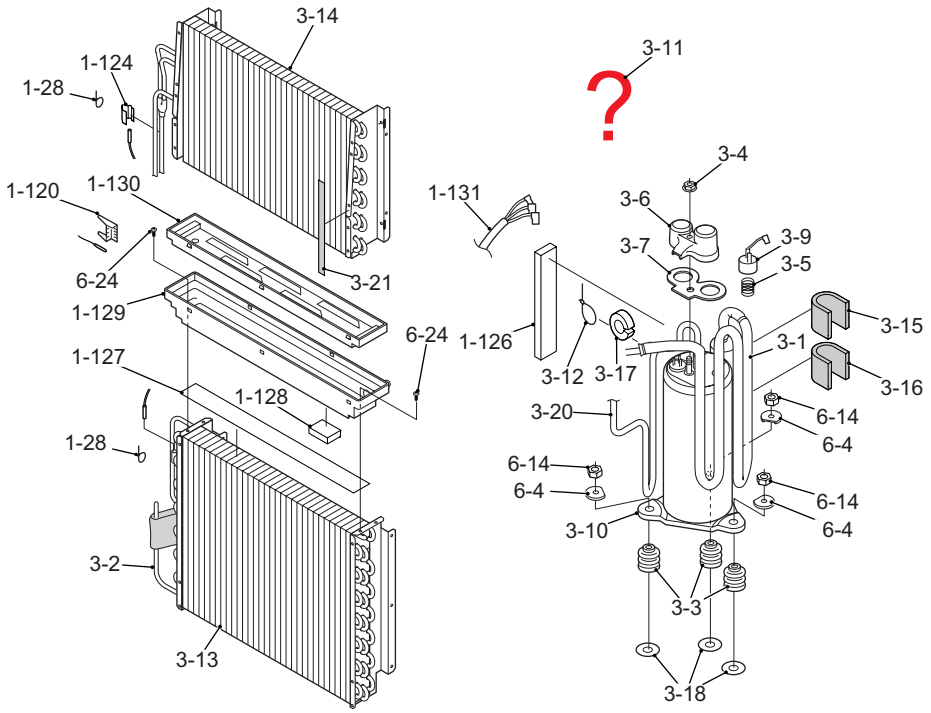
[3] CONTROL BOX PARTS



* Control board unit (2-2) consists of three units.
2-2-(1) · The main control unit.
2-2-(2) · The display & detector unit.
2-2-(3) · The display unit for the cluster.
But we can't deliver the units separatly.
Only you can order Fuse (2-10).

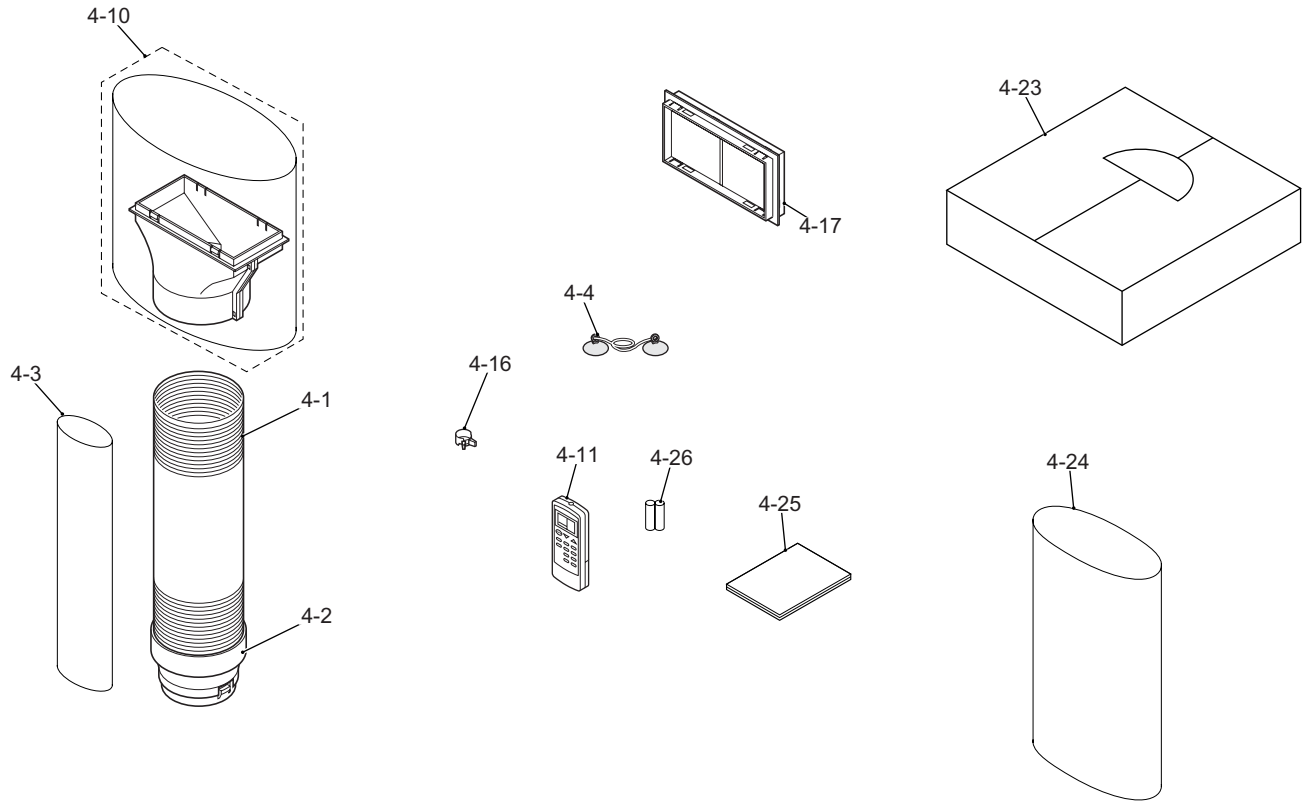
NO.	PARTS CODE	PRICE RANK	NEW MARK	PART RANK	DESCRIPTION
[3] CONTROL BOX PARTS					
CABINET AND UNIT PARTS					
1-28	LBND-A042JBE0	AC			Wire fixing band
CONTROL BOX PARTS					
2-1	QACC-A307JBZZ	AQ			Power supply cord
2-2	DPWBFA428JBKZ	BQ			Control board unit
2-3	LBNDKA130JBWZ	AK			Capacitor clamp
2-5	PBOX-A450JBWZ	AS			Control box
2-6	PCOV-B126JBWZ	AP			Control box cover
2-7	PSPA-A146JBE0	AC			Spacer
2-8	PSPA-A177JBZZ	AE			Pwb spacer
2-9	PSPA-A178JBZZ	AE			Pwb spacer
2-11	QW-VZE964JBZZ	AG			Lead wire
2-12	QW-VZE985JBZZ	AG			Lead wire
2-13	QW-VZE999JBZZ	AK			Lead wire
2-14	RC-HZA517JBZZ				Running capacitor
2-15	RC-HZA518JBZZ	AX			Fan motor capacitor
2-17	RH-HXA047JBZZ	AV			Thermistor
2-20	TLABCC089JBRZ				Wiring diagram
2-21	QW-VZF060JBZZ	AM			Lead wire
2-22	QW-VZF061JBZZ	AM			Lead wire
2-23	QW-VZF129JBZZ				Lead wire e
2-24	QTANZA022JBZZ	AH			Terminal board
SCREWS AND NUTS					
6-9	XHTS740P08000	AC			Tap tight screw (for earth leads & Control box)
6-42	XJTS740P08000	AC			Tap tight screw (for the transformer)
6-43	XJTS740P10000	AC			Tap tight screw (for Running capacitor & Wire holder)
6-44	XJTS740P12000	AC			Tap tight screw (for Fan motor capacitor)
6-45	XCPS740P10000				Tapping screw (for Control box ass'y)
6-46	XTPS740P20000				Tapping screw (for Control box ass'y)

[4] CYCLE PARTS



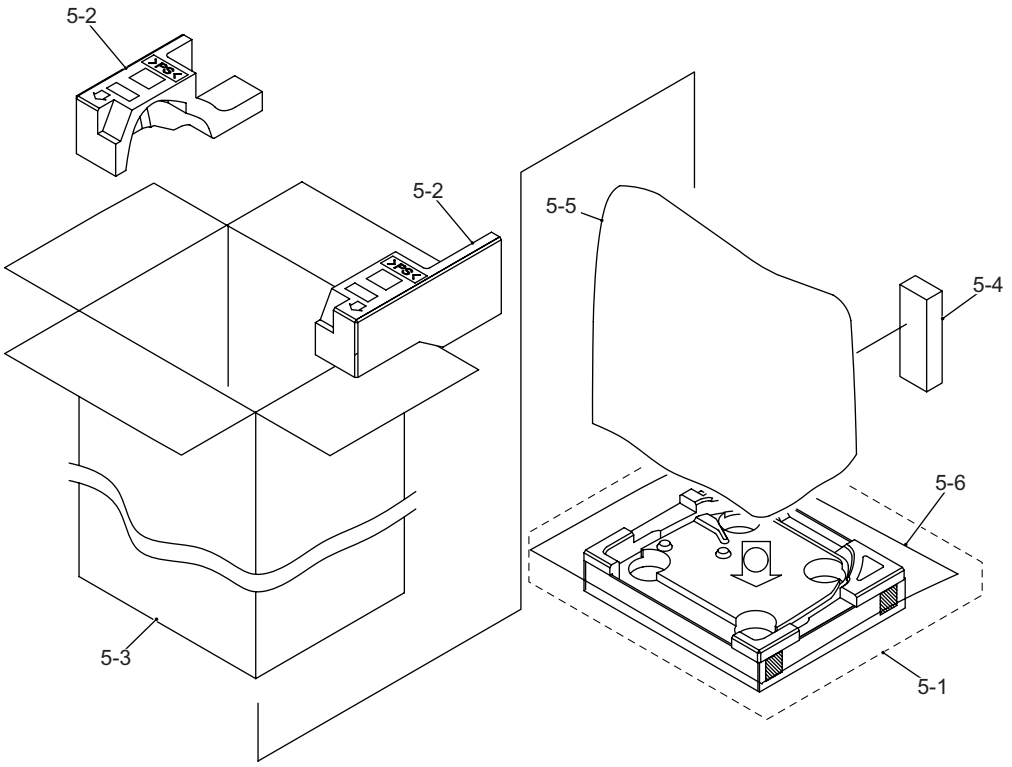
NO.	PARTS CODE	PRICE RANK	NEW MARK	PART RANK	DESCRIPTION
[4] CYCLE PARTS					
CABINET AND UNIT PARTS					
1-28	LBND-A042JBE0	AC			Wire fixing band
1-120	LHLD-A315JBF0	AE			Thermistor holder
1-124	MSPR-A026JBE0	AB			Spring
1-126	PCOV-B154JBEZ	AG			Cover m
1-127	PFIL-A070JBEZ	AE			Filter
1-128	PSEL-C882JBEZ	AC			Drain pan insulator
1-129	PSRA-A173JBFZ	AX			Drain pan
1-130	PSRA-A174JBFZ	AZ			Dribller
1-131	QW-IZA085JBZZ	AZ			Compressor cord
CYCLE PARTS					
3-1	CPIPCA951JBKZ	BK			Suction tube ass'y
3-2	DCPY-A348JBKZ	AQ			Capillary tube ass'y
3-3	GLEG-A105JBE0	AF			Compressor cushion
3-4	LX-NZA002JBE0	AA			Special nut
3-5	MSPR-A005JBE0	AB			Protector spring
3-6	PCOV-A002JBE0	AE			Terminal cover
3-7	PSEL-A006JBE0	AC			Terminal gasket
3-9	RHOG-A236JBZZ				Overload relay
3-10	PCMPRA485JBEZ	CM			Compressor
3-11	PFPFPC886JBEZ				Insulator
3-12	LBND-A046JBE0	AE			Wire fixing band
3-13	PCON-A554JBEZ	BR			Condenser
3-14	PEVA-A547JBEZ	BL			Evaporator
3-15	PFPFPC833JBEZ				Suction insulator
3-16	PFPFPC885JBEZ				Suc.insulator b
3-17	PGUM-A113JBE0	AH			Damper rubber
3-18	PSHE-A232JBEZ				Sheet
3-20	PPIPCH362JB1Z	AS			Discharge tube
3-21	PSEL-C880JBEZ	AC			Eva insulator
SCREWS AND NUTS					
6-4	LX-WZA048JBEZ	AD			Washer
6-14	XNES780-65000	AC			Nut
6-24	XTTS740P10000	AC			Tapping screw

[5] ACCESSORY PARTS



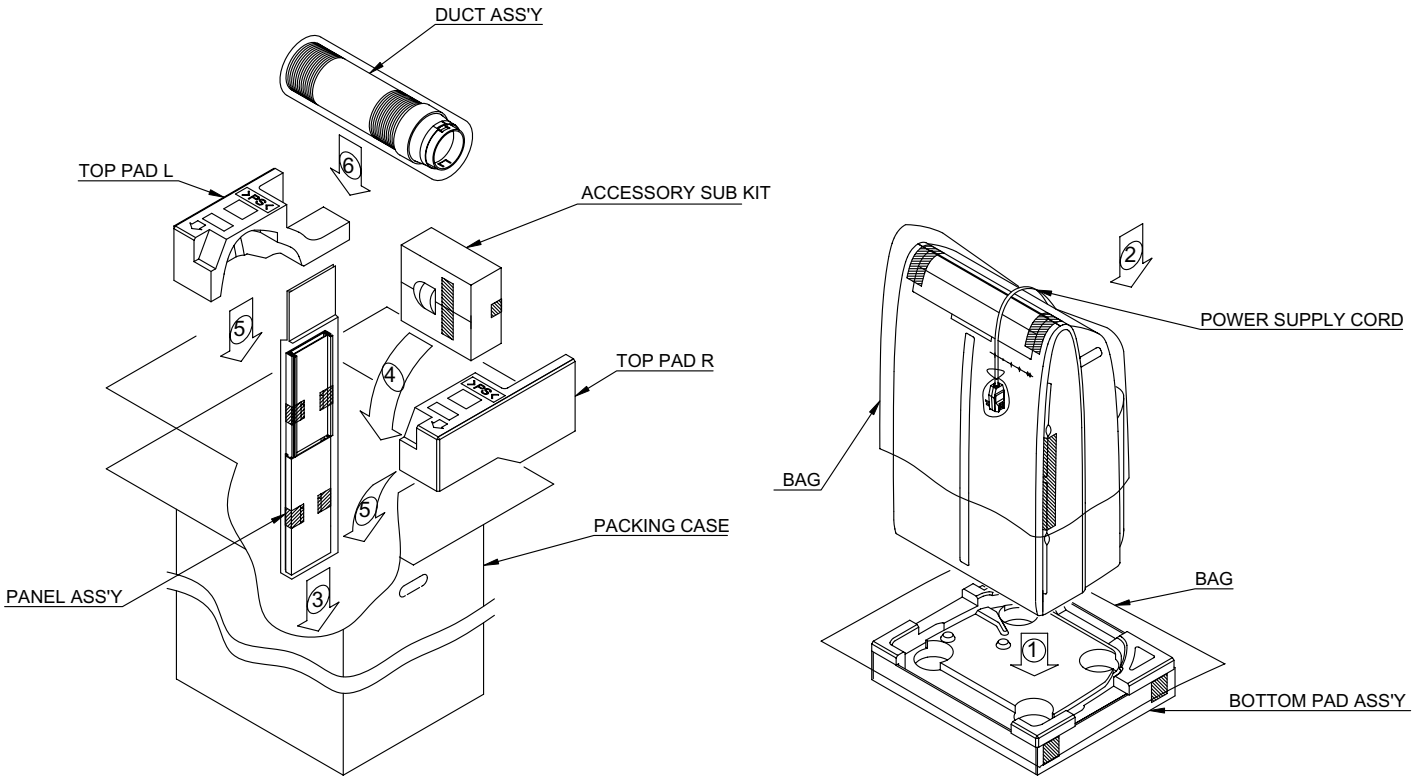
NO.	PARTS CODE	PRICE RANK	NEW MARK	PART RANK	DESCRIPTION
[5] ACCESSORY PARTS					
4-1	PDUC-A011JBFB	BC			Duct hose
4-2	PJNT-A007JBFB	AH			Connecter c
4-3	SSAKAA109JBEZ	AE			Bag
4-4	PPAC-A037JBEZ	AH			Suction cap
4-10	CJNT-A003JBKZ	AZ			Connecter ass'y
4-11	CRMC-A657JBEZ	AZ			Remote control
4-16	LBNDKA137JBEZ	AM			Band 1/2
4-17	LHLD-A740JBFB	AQ			Holder
4-23	SPAKCB932JBEZ	AH			Accessory case
4-24	SSAKHA149YDE0	AC			Bag
4-25	TINSEA419JBRZ	AX			Operation manual
4-26	UBATUA027JBE0	AE			Battery pack

[6] PACKING PARTS



NO.	PARTS CODE	PRICE RANK	NEW MARK	PART RANK	DESCRIPTION
[6] PACKING PARTS					
5-1	CPADBA090JBKZ	AS			Bottom pad ass'y
5-2	CPADBA091JBKZ	AR			Top pad ass'y
5-3	SPAKCB878JBEZ				Packing case
5-4	SPADBA321JBEZ	AD			Pad
5-5	SSAKHA018JBEZ	AF			Bag
5-6	SSAKHA245YDE0	AB			Protect

PACKING AND ACCESSORIES



■INDEX

PARTS CODE	No.	PRICE RANK	NEW MARK	PART RANK
[C]				
CCAB-A395JBKZ	1-1-1	BH		
CCHS-A914JBKZ	2-1-8	AZ		
CFLO-A001JBKZ	2-1-108	AK		
CJNT-A003JBKZ	5-4-10	AZ		
CKES-A162JBKZ	2-1-17	AT		
CKITTA071AKKZ	1-1-55	BD		
CMOT-A446JBKZ	2-1-100	BH		
CMOT-A447JBKZ	2-1-88	BM		
CPADBA090JBKZ	6-5-1	AS		
CPADBA091JBKZ	6-5-2	AR		
CPIPCA951JBKZ	4-3-1	BK		
CPMP-A006JBKZ	2-1-27	AN		
CPNL-A530JBKZ	1-1-36	BD		
CRMC-A657JBEZ	5-4-11	AZ		
CVLV-A755JBKZ	2-1-44	BE		
[D]				
DANG-A048JBKZ	2-1-82	AZ		
DCHS-A536JBTA	2-1-9	BB		
DCPY-A348JBKZ	4-3-2	AQ		
DFILMA001JBEB	1-1-83	AM		
DFILMA002JBEB	1-1-84	AM		
DLOV-A014JBKZ	1-1-56	AZ		
DPLT-A070JBKZ	2-1-85	AU		
DPLT-A071JBKZ	2-1-86	AW		
DPLT-A072JBKZ	2-1-87	AW		
DPWBFA428JBKZ	3-2-2	BQ		
DPWBFA431JBKZ	2-2-19	AS		
DSW-MA004JBKZ	2-1-107	AM		
[G]				
GCAB-A292JBFB	1-1-2	BQ		
GLEG-A105JBE0	4-3-3	AF		
GWAKPA173JBFA	1-1-59	BC		
[H]				
HBDG-A002KKEA	1-1-37	AE		
HDEC-B192JBFA	1-1-38	AF		
HDEC-B196JBEZ	1-1-30	AQ		
HPNL-A726JBFB	1-1-39	AW		
HPNL-A727JBFA	1-1-40	AZ		
HPNL-A728JBFB	1-1-115	AW		
HPNL-A729JBFB	1-1-116	AW		
HPNL-A746JBRB	1-1-41			
[L]				
LANG-A606JBFZ	2-1-102	AM		
LANG-A613JBWZ	2-1-117			
LANG-A614JBPZ	2-1-103	AK		
LANG-A615JBWZ	2-1-45	AK		
LANG-A617JBWZ	2-1-90			
LANG-A618JBPZ	2-1-104	AK		
LANG-A623JBPZ	1-1-60	AG		
LBND-A042JBE0	2-1-28	AC		
"	3-1-28	AC		
"	4-1-28	AC		
LBND-A046JBE0	4-3-12	AE		
LBNDKA130JBWZ	3-2-3	AK		
LBNDKA132JBEZ	2-1-29	AE		
LBNDKA137JBEZ	5-4-16	AM		
LHLD-A315JBF0	4-1-120	AE		
LHLD-A735JBFB	1-1-3	AD		
LHLD-A737JBFA	1-1-61	AZ		
LHLD-A739JBFA	2-1-111	AZ		
LHLD-A740JBFB	5-4-17	AQ		
LHLDW0364JBE0	2-1-91	AA		
LHLDW0366JBE0	2-1-122	AA		
LHLDW0368JBE0	2-1-123	AA		
LHLDW0370JBE0	2-1-92	AA		
LHLDWA042JBEZ	2-1-121	AE		
LPLTMA207JBWZ	2-1-53	AL		
LPLTMA210JBWZ	2-1-48	AQ		
LPLTMA211JBWZ	2-1-51	AQ		
LSTP-A027JBFA	1-1-62	AM		
LX-BZA360JBEZ	2-6-2	AF		
LX-NZA002JBE0	4-3-4	AA		
LX-NZA316JBEZ	2-6-3	AF		
LX-WZA048JBEZ	2-6-5	AD		
"	4-6-4	AD		
[M]				
MJNT-A023JBFA	2-1-18	AF		
MLOV-A409JBFA	2-1-19	AF		
MLOV-A410JBFA	2-1-20	AF		
MLOV-A425JBTA	1-1-63	AU		
MLOV-A427JBTA	1-1-57	AU		
MLOV-A428JBTA	1-1-58	AU		
MSPR-A005JBE0	4-3-5	AB		
MSPR-A026JBE0	4-1-124	AB		
[N]				
NFANSA045JBFZ	2-1-89	AX		
NFANSA046JBFZ	2-1-101	AX		
NKOM-A001JBEZ	2-1-10	AG		
[P]				
PBOX-A450JBWZ	3-2-5	AS		
PCMPRA485JBEZ	4-3-10	CM		
PCON-A554JBEZ	4-3-13	BR		
PCOV-A002JBE0	4-3-6	AE		
PCOV-B105JBFZ	2-2-18	AG		
PCOV-B108JBFA	1-1-64	AZ		
PCOV-B109JBEZ	2-1-46	AG		
PCOV-B110JBEZ	2-1-50	AH		
PCOV-B111JBEZ	2-1-52	AK		
PCOV-B112JBFZ	2-1-112	AF		
PCOV-B126JBWZ	3-2-6	AP		
PCOV-B153JBEZ	2-1-54	AG		
PCOV-B154JBEZ	4-1-126	AG		
PDUC-A011JBFB	5-4-1	BC		
PEVA-A547JBEZ	4-3-14	BL		
PFIL-A070JBEZ	4-1-127	AE		
PFLO-A006JBFZ	2-1-113	AE		
PFPFPC765JBEZ	2-1-21	AE		
PFPFPC769JBFZ	1-1-65	AF		
PFPFPC770JBFZ	1-1-66	AF		
PFPFPC771JBEZ	1-1-67	AF		
PFPFPC772JBEZ	1-1-68	AF		
PFPFPC773JBEZ	1-1-69	AF		
PFPFPC774JBEZ	1-1-70	AF		
PFPFPC775JBEZ	1-1-71	AF		
PFPFPC826JBEZ	2-1-22	AC		
PFPFPC827JBEZ	2-1-23	AC		
PFPFPC828JBEZ	2-1-24	AC		
PFPFPC829JBEZ	2-1-25	AC		
PFPFPC830JBEZ	1-1-72	AC		
PFPFPC831JBEZ	1-1-73	AC		
PFPFPC832JBEZ	1-1-74	AC		
PFPFPC833JBEZ	4-3-15			
PFPFPC862JBEZ	1-1-75	AC		
PFPFPC885JBEZ	4-3-16			
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PGID-A124JBFB	1-1-42	AF		
PGID-A125JBFB	1-1-43	AF		
PGUM-A113JBE0	4-3-17	AH		
PGUM-A164JBEZ	2-1-11	AE		
PGUM-A165JBEZ	2-1-12	AE		
PGUM-A166JBEZ	2-1-13	AE		
PGUMMA346JBEZ	2-1-14	AE		
PHOS-A045JBEZ	2-1-34	AM		
PJNT-A007JBFB	5-4-2	AH		
PKESSA090JBFA	2-1-26	AX		
PKESSA091JBFZ	2-1-106	AX		
PKESSA092JBFA	2-1-97	AX		
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PSEL-C877JBEZ	1-1-77	AC		
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PSEL-C880JBEZ	4-3-21	AC		
PSEL-C882JBEZ	4-1-128	AC		
PSHE-A230JBEZ	2-2-21			
PSHE-A232JBEZ	4-3-18			
PSPA-A146JBE0	3-2-7	AC		
PSPA-A177JBZZ	3-2-8	AE		
PSPA-A178JBZZ	3-2-9	AE		
PSPRCA010JBE0	1-1-79	AD		
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PSRA-A173JBFZ	4-1-129	AX		
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PARTS CODE	No.	PRICE RANK	NEW MARK	PART RANK
[Q]				
QACC-A307JBZZ	3-2-1	AQ		
QSW-MA009JBZZ	2-1-114	AL		
QTANZA022JBZZ	3-2-24	AH		
QW-IZA085JBZZ	4-1-131	AZ		
QW-VZE964JBZZ	3-2-11	AG		
QW-VZE971JBZZ	1-1-80	AL		
QW-VZE985JBZZ	3-2-12	AG		
QW-VZE999JBZZ	3-2-13	AK		
QW-VZF060JBZZ	3-2-21	AM		
QW-VZF061JBZZ	3-2-22	AM		
QW-VZF129JBZZ	3-2-23			
[R]				
RC-HZA517JBZZ	3-2-14			
RC-HZA518JBZZ	3-2-15	AX		
RH-HXA047JBZZ	3-2-17	AV		
RHOG-A236JBZZ	4-3-9			
RMOT-A061JBE0	1-1-81	AS		
[S]				
SPADBA321JBEZ	6-5-4	AD		
SPAKCB878JBEZ	6-5-3			
SPAKCB932JBEZ	5-4-23	AH		
SSAKAA109JBEZ	5-4-3	AE		
SSAKHA018JBEZ	6-5-5	AF		
SSAKHA149YDE0	5-4-24	AC		
SSAKHA245YDE0	6-5-6	AB		
[T]				
TINSEA419JBRZ	5-4-25	AX		
TLAB-C748JBRZ	1-1-4			
TLAB-C804JBRZ	1-1-5			
TLAB-C805JBRZ	1-1-6			
TLAB-C806JBRZ	1-1-7			
TLAB-C823JBRZ	1-1-137			
TLABCC089JBRZ	3-2-20			
TSPC-F091JBRZ	1-1-134			
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[X]				
XBPS730P08J00	2-6-6	AB		
XCPS740P10000	3-6-45			
XCTS740P10000	2-6-8	AC		
XHTS740P08000	2-6-9	AC		
"	3-6-9	AC		
XJTS740P08000	3-6-42	AC		
XJTS740P10000	3-6-43	AC		
XJTS740P12000	3-6-44	AC		
XNES730-24000	2-6-13			
XNES780-65000	4-6-14	AC		
XTPS723P14000	2-6-15	AC		
XTPS730P10000	1-6-16	AC		
XTPS740P12000	2-6-17	AC		
XTPS740P20000	3-6-46			
XTTS740P10000	1-6-24	AC		
"	2-6-24	AC		
"	4-6-24	AC		
XTTS740P12000	1-6-19	AC		
"	2-6-19	AC		
XTTS740P14000	2-6-20	AC		
XTTS740P16000	2-6-21	AC		
XUPS740P08000	1-6-22	AC		
XWSS700-25000	2-6-23	AC		

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